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MEDICAL JOURNAL

AND

Monthly Record

OF

MEDICAL AND SURGICAL SCIENCE.

EDITED BY

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CANADA

MEDICAL JOURNAL.

ORIGINAL COMMUNICATIONS.

Two Cases of Excision of the Knee Joint. By GEORGE E. FENWICK, M.D., one of the Governors of the College of Physicians and Surgions, C.E.; Physician to the Montreal General Hospital, &c.

IN the present day, Conservative Surgery has so far advanced, that the surgeon does not consider himself justified in sacrificing one inch of substance unattacked by disease, and, where a fair probability exists of the part becoming of some use to his patient. Considerable difference of opinion exists among surgeons, as to the advisability of excision as applied to the knee joint; the formidable nature of the procedure, the high rate of mortality, shock to the system, the chances of a useless limb, and the time required before a perfect cure is obtained, are all reasons which have been urged against the operation. Excision of the knee joint is more formidable in appearance than in reality; it certainly is not more so than amputation. The removal of a limb is always a cause of great anxiety to both surgeon and patient, the results not being more promising in the one than in the other; provided always, that in excision, the case is carefully selected, and that by delay, the bony structures are not found in such a state of disease, as to preclude the possibility of cure. Excision is not to be practised as a last resource, as is frequently the case in amputation; and I think, the success of the operation of excision of the knee joint, will be found to depend mainly on its early performance. Surgeons are fully alive to the unsatisfactory nature of synovitis affecting the knee joint; the attacks are frequent in their recurrence—each one leading to further mischief. From the synovial membrane the disease extends to the other structures, the ligaments, cartilages and bones, become altered in structure and appearance, and the disease steadily advances. These changes are by no means rapid in their advance. Years may elapse from the commencement up

to that period in which, from the formation of pus, little hope remains of saving the joint. The attempt at procuring anchylosis in disease of the knee joint is not always attended with success; in this disease it appears to me to be the exception and not the rule, indeed, when there is disease of the cartilages, and caries of the bones, little hope need be entertained of a successful issue. What, then, becomes the surgeon's duty in a case of this nature?—manifestly to remove the diseased structures, and by securing a comparitively healthy surface, place his patient in the very best possible position of saving a useful limb, which, although shorter than its fellow, is at least of greater benefit than a stump, which as Sir W. Fergusson aptly says, "becomes a peg whereon to hang an artificial leg." From the successful results of cases operated on by Sir W. Ferguson, Mr. Jones, Mr. Butcher, and others, it does appear that excision of the knee joint is a justifiable procedure, and the opinion of hospital Surgeons is growing in its favour. It is hardly fair, at this period of the history of this operation, to examine critically the results of the cases of excision of the knee joint, and compare them with the results obtained after amputation at the lower third of the thigh. When the operation of excision numbers its thousands as does amputation, I firmly believe, that the favourable results will be found somewhat different from those given by Dr. Hodges, so that the question of the rate of mortality cannot be considered as definitely settled. If, in comparison, we take the operation of ovariotomy, which, at the present day, is considered by most surgeons as justifiable, and compare the results as first given by Mr. Clay, at the early period of the history of that operation, with the statistics of the present day, a wide difference will be found to exist, and one in every way favourable to the procedure. Shock to the system, after excision of the knee joint, does not appear to me to be at all greater than after amputation at the lower third of the thigh.

With regard to the time required to elapse after excision, before a perfect cure is obtained, it is not more than that after amputation. From eight to twelve weeks must elapse before union is sufficient to permit of the use of the limb, but I would ask, where is the stump that is capable of bearing the weight of the body, on a well-padded and well-fitted artificial leg, even at the end of that period of time after amputation. From these facts, I think, that in every way excision compares favourably with amputation, and, in some respects, is superior. The security and comfort with which a patient stands and walks on his own leg, although shorter than its fellow, and, with a stiff knee, is far greater than that with any artificial contrivance applied at the end of a well-healed

stump. The operation of excision of the knee joint, so far as I can ascertain, has been performed four times in Canada. The first case, that of a young woman suffering from scrofulous disease of the knee joint, excision was performed by Dr. Hingston, at the Hotel Dieu Hospital, in the spring of 1862; every hope was entertained of success, as the case progressed favourably, until about the twelfth or thirteenth day, when diarrhœa set in, which carried her off on the seventeenth day after the operation. The second case was that of Dr. Grant, of Ottawa, C.W., the notes of which are to be found in the first volume of this journal. The results were most encouraging: the patient recovered with a sound and useful limb, two and a quarter inches shorter than the other leg. I may observe, that in a recent letter received from Dr. Grant, he states, that his patient had perfectly recovered, and was capable of enduring the labour of working his farm, and following the plough. In the other two cases, the operation was performed by myself, and they are of sufficient interest to warrant their record.

John Keenan, aged 18 years, a native of Canada, by trade a confectioner, of small stature, regular conformation, delicate appearance, fair complexion, light-coloured hair and eyes, and is of a happy, cheerful disposition. His family history was good, his maternal grandfather still living at an advanced age, and all members of his family strong and robust. He was admitted into the Montreal General Hospital on 11th April, 1865, suffering from an acute attack of synovitis.

History.—Seven years since he received a kick on the knee from a cow; at the time it became inflamed and very painful. He was confined to his bed for several weeks, during which period the knee was leeched several times, and various local applications made. This attack was attended with considerable constitutional disturbance, which, after some time, subsided, and he was enabled to get about, but the joint remained a little swollen, and was rather stiff. He was able, however, to go about his usual avocations, but the knee gave him much uneasiness; it was easily hurt, and he could not enter into the play of boys of his age. Slight blows, or twists in running would oblige him to remain at rest for days; these accidents were of frequent occurrence.

Two years ago the knee joint began to pain him at night, and occasionally would start, giving him much agony and interfering with his rest. Still he continued on at his work, with occasional intermissions; these attacks became more frequent, until worn out by their annoyance, he sought admission to the Hospital. At the time of admission he presented a careworn look. There was loss of appetite; he was pale and anxious, and the affected limb presented a marked contrast with its fellow

—the muscles on the affected side were not as well developed as on the sound limb, and the joint was much enlarged, being, by measurement, an inch and a half larger than the other knee. Active treatment was adopted, and the limb put on a double inclined plane, this afforded temporary relief.

On the 1st May, the patient came under my care. I continued the treatment up to the 15th, but finding that the man's health was beginning to suffer from the confinement and pain, consequent on the starting of the limb, and want of rest, I removed all bandages and made a careful inspection of the joint. The condyles of the femur were found expanded the synovial membrane felt thickened and pulpy, and on moving the patella in lateral, or rotatory motion of the joint, a distinct roughness was found to exist. This examination was accompanied with considerable pain which continued for some hours. In consultation with the medical staff of the Hospital, it was decided to excise the joint, which operation was performed on 17th May. The disease being on the left side, the operation consisted in making a U shaped incision from the outer side of the leg commencing a little above the head of the fibula, and with a semi-circular sweep, the joint was opened, the flap was dissected upwards and the heads of the bones, being turned out about 1½ inches of their anticulating surfaces were removed, a second slice had to be removed from the head of the tibia as that bone was found diseased. The femur was also found in a diseased condition, but not extensivley so; the cartilages were eroded and gone, and the articular surface of the patella being also diseased it was removed. Several small vessels had to be ligatured; the bones were placed in apposition, the flap turned down, and secured by eight silver sutures, the leg placed in a box splint, similar to that recommended by Mr. Butcher, carefully padded, and the patient removed to bed; ℥j of tinc. opii. was ordered to be given as soon as he recovered thoroughly from the chloroform, as much vomiting and nausea existed; however the anodyne was not taken until about six in the evening, when I saw him myself. He was still suffering from a sense of nausea; said he had no pain in the knee, but a feeling of soreness in the vicinity of the wound; had not taken any nourishment, but experienced thirst; was allowed weak brandy and water, of which he partook sparingly; pulse 100, and weak; appeared rather dull, somewhat like a person recovering from intoxication. Cold water dressings were applied to the wound, and the anodyne was ordered to be repeated during the night, if necessary.

May 18.—Slept a little during the night; feels squeamish; has taken beef tea at intervals; pulse full 110. Complains of pain in the wound; the anodyne to be repeated at night.

May 19.—Slept well during the night; had slight starting of the limb; has taken freely of beef tea; the surface of the wound was hot and slightly inflamed, skin moist, tongue slightly furred, pulse full 100 per minute. Complains of fulness; as the bowels had not moved was ordered ʒ ii. of castor oil, and if necessary, the anodyne to be repeated at night.

May 20.—The oil acted gently, and gave him relief this morning; is cheerful and easy, a sense of tingling in the wound but no pain, slept well, and felt refreshed, the anodyne was not needed, healthy pus is exuding from the wound, and granulations are observable at several points. The thigh bone was displaced forward, which necessitated the removal of the dressings.

It was put up afresh, and an anterior splint applied. He bore the removal of the splints well, and after the limb was done up stated he felt more comfortable. Tongue moist and clean, appetite returning, takes freely of beef tea, pulse 90 full and soft. From this date he steadily improved, the ligatures and sutures were all removed by the 14th day. On July 1st, it is stated, the wound all but healed; slight discharge from the outer side, the bones are firmly united, but it was not thought advisable to remove the splints. The diet throughout was nourishing, and he was allowed a pint of porter daily.

On the 25.—July, the limb was put in a starch bandage; all discharge

had ceased for some time; the bones were supported by a gutta-percha splint moulded to the limb, and he was permitted to leave his bed and go about on crutches.

August 10.—Can lean his weight on the limb, union is firm and the splints were removed, the part supported simply by a well-adjusted bandage.

From this date he was considered cured; the strength of the limb gradually and steadily increased—the leg now became muscular, and he soon resigned the use of the crutches. The accompanying wood-cut is from a photographe taken seven months after the operation. At that period he could go about the city, and walk a whole day without fatigue. Shortening was very slight—not over one inch and a half—he did not require a high-heeled boot to compensate for what he had lost. I am indebted to Messrs. R. S. Parker, and E. C. Walsh, for the notes of this case.

The second case of excision was somewhat different in the origin of the disease, and occurred in a young man of robust appearance, who was admitted into the Montreal General Hospital on 18th May, 1866. The following account is from the notes, kindly furnished me by Mr. J. H. Chipman:—William Davis, aged 22 years, a native of Scotland, tall well-developed and muscular, was admitted into the Hospital under the care of Dr. Fenwick.

Present state:—The right knee joint is partially anchylosed, the limb is bent nearly at right-angles, he cannot put his foot to the ground, there is a very limited motion in the joint, the patella is perfectly attached to the femur. At the inner side of the thigh, close to the joint, there exists a sinus, which leads downwards and outwards in the direction of the joint, and, on introducing a probe, the bone is found denuded and bare; there are marks of old cicatrices on either side of the thigh, somewhat above the condyles of the femur. From these, he stated pieces of bone had come away on several occasions. He is of medium height, well built, muscular, dark hair and eyes, is well-nourished, does not suffer any inconvenience from his leg, but, from the circumstance of being informed by his medical attendant that he must lose his leg, and from its uselessness in its present condition, he determined to seek assistance in the hospital in our city.

Previous history:—About nine years ago he suffered from rheumatic fever; his right knee joint was first attacked, and the other joints in succession, he was three months under treatment before was able to leave his bed, the disease seemed to locate itself in the right knee joint, which remained stiff, and since that period he has suffered from inflammatory attacks of the joint, coming on at intervals of three or four weeks. Three

years ago the joint became very stiff, and openings formed in the neighbourhood, which discharged freely, and several pieces of bone came away, when these sores healed up. Eighteen months since, the leg became fixed in its present semiflexed condition. The man is anxious to have anything done to save his leg.

In consultation it was agreed to excise the joint, which was performed on the 21st June, 1866. The U incision was employed, and about two inches of the bones removed. The head of the fibula was found diseased, and had to be removed; considerable oozing followed, but not sufficient to weaken the patient, still a clot formed beneath the flap after the leg was put up. The splint used was a box carefully padded; the wound, after it was brought together with sutures, was simply dressed with cold water and lint. In the evening he did not complain of pain or uneasiness, except in the instep, pulse 116 full, no sickness or vomiting; has taken a little beef tea since the operation, to have ʒ j. of Tinc. opium, to induce sleep.

June 22.—Slept very little; the pain in the instep is rather severe, no undue pressure appears to exist, the wound looks well, and a slight bloody discharge coming away, pulse full 102, countenance flushed, tongue foul, does not care for food, but has taken a little beef tea; a hypodermic injection of morphia to be administered at bed-time.

June 23.—Slept well last night, and expressed himself as much refreshed; still some pain in the instep; a desk was made to rest the splint on, and elevate the foot, which position gave him much comfort. He was rather feverish, and complained of thirst, pulse 112 full. The following prescription was ordered:—

℞ Chl. potassa		ʒ jj.
Nit.	do.	ʒ j.
Aqua	do.	℥ viij.

A table spoonful every three hours.

June 24.—Feels very little pain in the leg, no starting, complains of pain in the back, from difficulty of obtaining a comfortable position, bowels not moved, pulse 98, tongue still foul, takes more nourishment.

June 26.—Pain in the back nearly gone, he had a pillow placed beneath the loins, which gave him great comfort; discharge from knee is becoming more copious, consisting of blood and pus; several masses of the old clot were pressed out, feels comfortable, and takes as much nourishment as usual since the operation.

June 29.—Since last report has gone on favorably; the discharge is becoming more healthy in appearance, bowels not opened since the operation; to have castor oil, slept very well, ligatures, of which there

were five, all on small vessels, came away; takes abundantly of beef tea and chicken broth. The bones had become somewhat displaced, and were readjusted.

July 3.—The next report is under this date. He is going on most favorably, sleeps well, bowels acting every second day, he takes the full diet of the hospital, and a pint of beer; the wound nearly healed, four sutures removed, the discharge, which is moderate, is of healthy pus.

July 16.—All the sutures taken out; on careful examination, the bones were found somewhat displaced, the femur being to the outer side, and tibia internally; they had to be readjusted, which is to be regretted, as considerable union had taken place; the discharge has altered much in appearance, resembling synovial fluid.

July 28.—Discharge not very great, he is continuing on as well as can be expected; eats well, sleeps well, and has no pain; is very anxious to leave his bed.

On the 9th August all discharge had ceased, and on taking the limb down a day or two subsequently, the union was found perfectly strong. There will be shortening of about two inches. The man may be considered cured, although I do not consider it advisible to remove the splints for a week or two.

REVIEWS AND NOTICES OF BOOKS.

A Treatise on the Principles and Practice of Medicine, designed for the use of Practitioners and Students of Medicine. By Austin Flint, M.D., Professor of the Principles and Practice of Medicine in the Belvue Hospital Medical College, and in the Long Island College Hospital, &c., &c. Philadelphia: Henry C. Lea, 1866. Montreal: Dawson Brothers.

The reputation which Professor Flint enjoys as a teacher of the practice of medicine in the United States, has led us to examine the above work from his pen, with all the care that a limited time would allow; and, while we find much, very much, to commend, we cannot help thinking that his style has too much of terseness to make it pleasant reading, to devote more than an hour or two to its persual, and that perhaps he is somewhat too dogmatic in stating the treatment to be followed in certain affections. In a measure, he may be styled "conservative" in his doctrine, and we imagine it would not give him a pang of regret if he could never lay his

hands upon a lancet, to employ it in depletion, or never be able to make use of calomel or antimony in the treatment of inflammatory affections. In this matter, we think, he has gone a little too far, and has given the anti-mercurialists strong peg upon which they can hang their chronic grievances of the evils attending the use —mind *not* the *abuse*—of mercury. Upon the *vis medicatrix naturæ*, Dr. Flint seems to have much faith—and that it is a power that works at times wonders, we will not for a moment deny—yet it would be a doctrine at once pernicious and disastrous, to instil into the mind of the young practitioner to depend too entirely upon the conservative power of nature; and much of Dr. Flint's writings seems to point to that method of treatment.

It is a well known fact, that many physicians believe that diseases have changed their type within the last twenty-five years; among those who hold that opinion is Professor Stokes of Dublin. In speaking of the treatment of acute pleurisy, Professor Flint thus incidentally alludes to this question:

"The opinions held by some, that diseases, and the human constitution have undergone a notable change during the last quarter of a century, and that blood-letting and other anti-phlogistic measures are less appropriate now than formerly on this account. This opinion seems to me not well founded, after a professional experience, extending beyond the period named. I do not hesitate to express a conviction that acute inflammations at the present day are essentially the same as they were twenty-five years ago, and that anti-phlogistic measures were no more appropriate then than now. Were it true that such changes have occurred, the fact would strike at the root of medical experience. If changes requiring a revolution in therapeutics are liable to occur with each successive generation, it is evident there can be no such thing as permanent principles of practice in medicine; the fruits of experience in our day, which so many are striving to develope, will be of no utility to those who are to come after us."

Upon a question of such importance as this, we think the author has been somewhat unnecessarily brief. It would have satisfied us more had he stated his reasons a little more in detail, for coming to such a conclusion. We do not contradict the opinion he has expressed, for we candidly admit the subject is one involved in a good deal of mystery to us, yet we think had he entered more fully into the reasons, gathered from his long experience, which have led him to this conclusion, he might have exercised considerable weight in influencing minds not biased to either doctrine yet, and with whom his somewhat abrupt dogmatic assertion will have little weight. For instance, Stokes, reasoning for the opposite side, has told us that in certain years, fever raging in Ireland had certain well-marked symptoms, which he described at much length, and he then gradually

traces the change in the type, which seems to him to have taken place. We deeply regret that Dr. Flint has not thus fully entered into the opposite side of the question, which is the one he holds.

In the treatment of pleurisy, he says:—"The regulation of the amount of drink ingested is an important point with reference to the promotion of absorption. The elimination of water by the bowels or kidneys is of little avail, if the patient be allowed to take fluids into the system abundantly. The quantity of fluid ingested should be as small as is compatible with comfort. The treatment is often rendered inefficient by inattention to this point."

Pneunomia is styled pneumonitis; also, pleurisy—pleuritis. We confess a dislike to these names, and have always rebelled against calling them by such terms, preferring the well-known pneumonia and pleurisy. There is a tendency, now-a-days, and a very pernicious one it is, to multiply and alter terms which only tends to mystify and perplex; we can conceive of no good to come from it. Speaking of pneunomia, and alluding to the absence of the chlorides from the urine, which is, however, not peculiar to this disease, he says:—"It is stated that the chlorides are found in abundance in the matter expectorated, during the time of their disappearance from the urine." In describing the treatment, he thus alludes to the alcoholic portion of it; and now that a new school, under the direction of Professor Gairdner, of Glasgow, is springing up, who deny the ultility of alcoholic stimulation in this, and all other diseases, it is important to have the opinion of such an able authority as Dr. Flint. He says, at page 167: "Alcoholic stimulants form a very important part of the supporting treatment in this disease, as in all other disease wherever the great object is to keep the patient alive until the disease has reached the end of its career, and advanced into the stage of resolution. The principle is the same as in essential fevers. And here, as in the management of essential fevers, alcoholic stimulants are indicated to an extent commensurate with the danger from failure of the vital powers. In certain cases of pneumonitis as in typhus, and typhoid fever, and other affections, there is often a remarkable tolerance of alcohol, and the only guide, as regards quantity, is the effect as manifested by the symptoms. No abstract rules can be laid down but careful observation must furnish the rule proper for each individual case. * * * If pushed to an injudicious extreme they are as potent for evil, as they are potent for good when judiciously used. * * * They are always indicated as soon as evidence appears of any tendency to failure of vital powers, and of this the action of the heart, represented by the pulse, is the best criterion. Feebleness, great frequency, and pulse vibratory or thrilling, but compresible, denoting

increased activity, but diminished power of the ventricular contractions; these are the characteristics which indicate supporting measures, of which alcoholic stimulants form an essential part. * * * * Whenever the question arises, whether alcoholic stimulants be advisable or not, it should be borne in mind that to begin earlier than they are required is far preferable to subsequent delay; for with proper care they can be suspended without injuring, whereas the time lost in beginning too late cannot be regained."

On the treatment of Acute Bronchitis, Professor Flint says that "in some instances it may be prevented by a full opiate and diaphoretic. A quarter of a grain of sulphate of morphia, half a grain of codeia, a proportionate dose of any of the preparations of opium, may be given at bedtime, accompanied by a hot pediluvium, and some warm stimulating drink, such as weak punch or toddy, followed in the morning by a saline purge." We make this extract, for it is a plan we have often followed with much success. Again he says:—"Opium is thought by many to be contraindicated in the first stage. It is supposed to interfere in the free secretion of mucus, and renders expectoration difficult. This is an inference from the effect of opium on the secretions in health; but so far from these results being produced, opium appears to hasten the second stage. The free secretion of mucus is not the cause, but the consequence of an abatement of the inflammation, and by contributing to the latter, opium virtually acts as an expectorant. Opium, therefore, is indicated in the first stage of bronchitis, as it is in most acute inflammations. In the second stage it is only indicated, when the cough is out of proportion to the expectoration; that is, when the amount of cough existing is not needed to effect the removal of morbid products in the bronchial tubes. Opium is contraindicated, if owing to the feebleness of the patient, the efforts of expectoration are inadequate to prevent accumulation in the bronchial tubes."

When treating of the subject of delerium tremens,—our author thus gives expression to his opinion regarding the cause of the disease. "In a large proportion of cases its development is evidently owing to the use of alcohol being suspended or much diminished. Thus it occurs in persons who voluntarily undertake to abandon intemperate habits, or who are unable to obtain liquor, or who are prevented from drinking by the occurrence of some disease or accident. It is notoriously common among inebriates who are thrown into prison, and among those admitted into hospital. It is apt to follow paroxysms of intemperance in periodical drinkers when the stomach refuses further alcoholic libations," Dr. Flint has tried the method of treating this disease by large doses of

tincture of digitalis, and says:—"In one case it acted like a charm, but in the others no curative effect was apparent. He recommends tartar emetic in nauseating doses, and opium as advised by Professor Stille, of Philadelphia—that is, commencing with a quarter of a grain, and hourly increase the dose, till sleep is produced. He thus speaks of the continuance of the stimulus:—"In general it is injudicious to discontinue entirely the use of stimulants so long as the affection continues. The time for breaking off the habitual use is after sleep has taken place and the patient is convalescent. Stimulants are to be given freely, in cases in which the symptoms denote failure of the vital powers."

When writing of the various means that have been suggested to prevent pitting in small pox, Professor Flint does justice the late Dr. Crawford, Professor of Clinical Medicine in McGill University, by stating "The application of tincture of iodine, once or twice daily, by means of a brush, was a plan introduced by Dr. Crawford of Montreal."

Dr. Flint has evidently devoted great care in the compilation of his work, which has the advantage of being brief, and yet containing almost everything really essential. It has faults, and what work is free from them? But we feel that, with justice, we can cordially recommend it to the practitioner—although we must admit there are works from other pens, that we would sooner have in the hands of students. It is neatly produced from the publishing house of Henry C. Lea, late Blanchard & Lea, Philadelphia.

The Practice of Medicine. By THOMAS HAUKES TANNER, M.D., F.L.S., Member of the Royal College of Physicians, London. From the fifth London edition, enlarged and improved. Philadelphia: Linsay & Blakston. Montreal: Dawson Bros.

Tanner's Manual of the Practice of Medicine has, for a number of years, been the standard one in use among practitioners and students, but we think they will hardly recognise their old friend, in the large volume of almost a thousand pages, into which it has been transformed, and which bears the title at the head of this article. In his preface Dr. Tanner tells us that all the time that he could spare from his onerous duties have been devoted to the revision of his work, which has almost unconsciously attained its present size. His style of writing is pleasant, and, without being at all wearied, several hours can be passed in its perusal; but we cannot avoid stating that this work has one of the faults, which we complained of in the review of Dr. Austin Flint's Practice of Medicine, viz., the dogmatic tone to be observed throughout the entire

volume. Dr. Tanner has, in his preface, attempted an apology for this in the following words—"I trust it may not be thought that too dogmatic a tone has been adopted. But twenty years of daily observation have given me great confidence in the strength of the general principles which I have tried to inculcate in the following pages; and being thus zealously impressed, it is difficult (even were it advisable) to do otherwise than speak positively." We can fully appreciate the difficulty to which Dr. Tanner alludes, yet believe that it might have been overcome, and upon the advisability of his having overcome it we do not entertain a doubt. With this exception we believe Dr. Tanner's work to be a most admirable compendium upon the treatment of disease—one from which much useful information may be derived. Upon the subject of obesity our author gives a good deal of credit to Mr. Banting, for his system. Speaking of the power which physicians have to cure obesity, he says—"Now I believe that we possess this power, and that we are indebted for it to the light which has been shed by physiological chemistry on the production of fat in the body, and the influence of respiration of removing carbon from the blood * * *. But it is only fair to allow, that some credit is due to Mr. Banting, whose pamphlet appears to me a very sensible production. In August 1862, this gentleman was 66 years of age 5 feet 5 inches in stature, and 202 lbs. in weight. He could not stoop to tie his shoe, was compelled to go down stairs backward to avoid the jar of increased weight on the knee and ankle joint, and was made to puff and blow, with every slight exertion. After trying many remedies, including fifty Turkish baths with gallons of physic, without the slightest benefit, he consulted Mr. William Harvey, who cut off the supply of bread, butter, milk, sugar, beer, soup, potatoes and beans, and ordered the following diet.—(We give this table, as it may be of interest to many of our readers who may have been unable to obtain Mr. Banting's phamplet.—Ed. Journal.)

Breakfast.—Four or five ounces of beef, mutton, kidney, broiled fish, bacon or cold meat (except pork), a large cup of tea, without milk and sugar; a little biscuit or one ounce of dry toast.

Dinner.—Five or six ounces of any fish except salmon, (it would have been as well to have forbidden herrings and eels,) any meat except pork, any vegetable except potatoe, one ounce of dry toast, fruit out of a pudding, any kind of poultry or game, and two or three glasses of good claret, sherry or madeira; champagne and beer forbidden.

Tea.—Two or three ounces of fruit, a rusk or two, and a cup of tea without milk or sugar—(coffee might have been allowed).

Supper.—Three or four ounces of meat or fish or a glass or two of

claret. For nightcap, if required, a tumblerful of grog (gin, whisky or brandy without sugar or a glass or two of claret or sherry.)

"At the same time a draught of a drachm of the aromatic spirit of ammonia, with ten grains of carbonate of magnesia, was given twice daily on an empty stomach. The result of this treatment was a deduction of 45 lbs. in weight, with better health than had been enjoyed for the previous twenty years."

When writing of the treatment of gonorrhœa, a disease which is unfortunately but too prevalent, he advises great caution with regard to two drugs, copaiba and cubeb pepper. He says—"Without saying that these agents are never to be prescribed, yet I would guard their administration with so many 'ifs' as almost to amount to a prohibition. Such has been our experience; and for a number of years we have never made use of either of the drugs named, and yet have seldom met with much difficulty in curing the disease." This assertion we most cordially endorse. Within the last seven years we have treated several hundred cases of this disease, and with one or two exceptions, never made usa of the last drugs named. In the only cases in which we used it, we found the nausea produced so great, that we then abandoned their administration in the disease, and never have had occasion to regret it.

As we gave Dr. Flint's views of the cause of delirium tremens, we quote Dr. Tanner's, with a view of shewing what entirely opposite opinions, are held by these two eminent authors. Dr. Tanner says—"According to some authors, the symptoms of delirium tremens, may set in after a protracted debauch of six or eight days, or upon the sudden withdrawal of the accustomed potations. The latter observation has been repeated so frequently that at last it has almost become a sort of recognised law; but *for all that it is probably thoroughly untrue.* Evidence derived from hospital practice, and from the reports of convict prisons, seems directly to negative it; and it may now be said to be at least highly probable, that a person accustomed to the very free use of stimulants may at once give them up without any danger whatever; in fact, as with other persons, the only risk to be feared is from continuing their employment." Our experience has tended to prove directly the opposite, and so great a benefit have we seen derived from the administration of stimulants, in this disease, when the patient has been cut off from it for several days previous to the attack, that we would feel, we would not be doing our duty to our patient, if, in the majority of cases, we did not continue the stimulants until sleep had supervened. Looking upon the disease as alcoholic toxæmia, our author says—"It is as absurd as it is injurious to treat this disease by continued doses of the

poison that has caused all the mischief." Dr. Tanner says his experience tends to confirm that of Dr. Jones, of Jersey, of the benefits to be derived from the employment of digitalis in large doses.

We have no doubt that all who patronised the Manual of Dr. Tanner will be anxious to obtain the work in its enlarged and improved edition; to others we can especially commend it as being replete with the most valuable practical information. It is neatly got up, and substantially bound, by the publishing house, whose imprint the book bears, that of Lindsay & Blackston, of Philadelphia.

PERISCOPIC DEPARTMENT.

Midwifery and Diseases of Women and Children.

ILLUSTRATIVE OF THE DISEASES OF CHILDREN.

By G. Stevenson Smith, L.R.C.S.E, Fellow of the Obstetrical Society, and formerly resident Medical Officer, Royal Edinburgh Hospital for sick children.

ACUTE HYDROCEPHALUS.

The following cases are intended to illustrate the chief symptoms of Acute Hydrocephalus, which is one of the most frequent and most fatal affections of early life. The insidious manner of its approach, the extremely painful nature of its course and termination, as well as the resistance it usually offers to all treatment, cause this disease to be regarded both by parents and practitioners with feelings of anxiety and alarm.

It is one of that class of ailments for which unfortunately medicine can do but little; for although in recent years, mainly through the researches of French pathologists, we have become intimate with the structural changes and appearances which generally accompany an attack of hydrocephalus, we are still ignorant of any remedy on which we can rely as a cure. And consequently the annals of medicine record very few instances indeed of recovery having taken place, after any well-marked symptoms of water on the brain had manifested themselves. It is no uncommon thing for patients labouring under the chronic form of the disease to survive for many years, but in them the senses and the intellect are often impaired; in acute cases, however, a fatal result is almost invariable.

Case 1.—E. W., aged 6, had enjoyed tolerably good health up till the month of October, 1865; but about that time she began to fall off, her

appetite was poor, and she had frequent headaches. On the 1st day of January, 1866, she was seized with a violent attack of vomiting and retching, which continued for several days. On the 6th she was so exhausted that she had to go to bed, and there was severe pain in the head and back of the neck. On the 21st she had what the friends described as nervous fits, during which the hands were spasmodically clenched, the eyes rolled wildly, and the teeth were ground together. The bowels had been all along confined, and when first seen by me on January 24th she was in the following condition:—Face pale and dingy, eyes sunken and glassy, the pupil of the right eye widely dilated, left pupil natural, conjunctivæ red and injected. She was greatly emaciated, skin dry, pulse feeble, rapid but regular; breathing was gurgling; tongue coated, small and sharp-pointed, fiery-looking at the tip. Though extremely exhausted she was quite sensible, and answered questions correctly. The belly was sunken but the bladder was distended, and about fourteen ounces of urine were drawn off. It was of specific gravity 1007, faintly acid in its reaction, and free from albumen. As the patient was so feeble, ammonia, strong beef-tea, and wine were ordered. On the morning of the 25th the breathing was slow, pulse fluttering, and irregular. She kept constantly pushing the bedclothes down, clutching at imaginary objects, and grinding the teeth all day, and died without any convulsion at eight o'clock the same evening.

Sectio Cadaveris thirty hours after death.—Rigor mortis feebly marked. Hypostatic congestion considerable. On examining the head some adhesions of the membranes to the brain posteriorly were found. Both ventricles were distended with clear fluid. Around the optic nerves the membranes were roughened, and in the fissure of Sylvius that appearance of the textures which has been described as resembling sago was found to exist.

The brain substance was not at all softened, but of a natural firmness.

In the abdomen the mesenteric glands were enlarged.

The left lung was firmly adherent to the thoracic wall anteriorly, but no trace of tubercle could be found in either of the lungs.

Remarks.—In this case the approach of the disease was heralded by symptoms which are extremely common, falling off in general health, retching and vomiting, and pain in the head and neck. The headache is generally confined to one side, and according to my experience, pain or stiffness in the neck is almost a constant symptom in cases of inflammatory affections of the head. The roughening of the membrane about the optic nerves was no doubt caused by the deposit of minute masses of tubercular matter.

Case 2.—T. J., aged 6, was first seen by me on the 28th of January, 1866. He had been ill for about a week with feverish symptoms. He was restless, cried aloud every now and again, and complained of pain in the forehead. The pulse was 80 and intermittent. Tongue red at the point; pupils natural. Body emaciated, belly sunken, skin dry and dingy, There were some purpura-like spots on the arms and trunk. The urine was acid, slightly albuminous, and of specific gravity 1033. Under the microscope numerous amorphous masses of urate of ammonia were seen. The iodide of potassium, three grains every four hours, was prescribed, and as there was some tenderness on pressure over the stomach, a mustard poultice was applied. Wine, beef-tea, and milk were also ordered to be given frequently.

On the 29th the pulse was 132, and irregular. The breathing was gasping and shallow, eyes sunken, but natural. He complained of pain over the spine in the dorsal region, when pressure was made there. He was quite sensible, but tossed about in bed, and coughed a good deal. As the bowels had not opened, an enema was ordered, and blistering fluid was painted on behind both ears.

On the 30th patient still continued conscious, but had some difficulty in speaking. The breathing was laboured, pulse 120-140, and very feeble and irregular; pupils unaffected.

On the day following—viz., the 31st January—the bowels became very loose, the pulse fell to 96 beats in the minute, and he vomited some black bad-smelling matter. Towards evening his motions were very fœtid, and passed involuntarily in bed. At midnight he was seized with violent convulsions, which affected chiefly the left side. During the attacks the pupils, which hitherto had remained unaltered, became dilated, and the arms were pronated forcibly. The pulse at this time could hardly be felt, and patient moaned much. He died on the 1st of February, having retained his consciousness till near the close. No examination of the body could be obtained.

Remarks.—In this, as in the preceding case, the patient retained possession of his faculties till the close; but it differs from Case 1, in being accompanied by convulsions. The boy was evidently of a strumous constitution, and had previously suffered from pneumonia,

The iodide of potassium has been greatly extolled of late in the treatment of the head affections of children, but like all other remedies, it is too generally found to be of little service. There is one case, however, recorded in the books of the Edinburgh Children's Hospital, in which, after the manifestation of the usual symptoms of hydrocephalus, including convulsions, recovery took place under frequent and full doses of this drug.

In Case 2, I made a daily observation of the state of the temperature of the body, and found that in the axilla the mercury of the thermometer stood as follows:—

January	29th,	Morning,	temp.	97 2-5th	degrees.
"	"	Evening,	"	98 3-5th	"
"	30th,	Morning,	"	98	"
"	"	Evening,	"	98 2-5th	"
"	31st,	Morning,	"	96 4-5th	"
"	"	Evening,	"	97 4-5th	"
During convulsions				99 1-5th	"
Feb. 1st, at the moment of death,				99 1-5th	"

It will be noticed that during the convulsions there was a rise in the temperature, and just at the moment of dissolution the thermometer stood at the same figure—namely, 99 1-5th degrees.

Had there been any doubt as to the nature of the case, any uncertainty as to whether it was hydrocephalus or typhoid fever, the state of the temperature would have been of invaluable service in aiding us to form a correct opinion.

Case 3.—J. M., aged 9, had never been a very healthly boy, and some time ago suffered from an an attack of inflammation of the lung. He had been pretty well, however, and running about as usual, till one day in the end of the month of September, 1865, when, after eating a raw turnip, he was seized with a violent headache. Two days afterwards retching and vomiting came on, and continued for five days, when he fell into a state of stupor, and had a violent convulsion. When seen by me he was partially insensible, screamed with pain in the head, tossed restlessly in bed, and had a good deal of gurgling in the throat. The skin was hot, and so was the head, pulse small and quick, tongue red and parched. There was also an occasional short cough. The iodide of potassium in frequent doses was prescribed, and patient was to have milk and beef-tea. Cold was also applied to the scalp. The following day, October 6th, he seemed to be rather more sensible, but still complained of pain in the forehead and face. A small fly blister was applied to the nape of the neck.

October 7th: Patient worse to-day. Eyes very much congested. At times he lies quietly in a semi-comatose state, and then gets restless again and cries out most piteously. An enema was administered, and the bowels were freely moved. The gurgling in the throat continues, and he seems to lack the power to cough up the mucus.

The urine is free from albumen.

October 8th: Patient died quietly, without any convulsion, this afternoon.

Sectio-cadaveris twenty hours after death.—The veins of the head were quite full of dark clotted blood. The ventricles contained a small quantity of greenish-coloured fluid. The cerebellum was adherent to the membranes at several points. The substance of the brain appeared to be healthy.

An examination of the chest revealed an old pleurisy of the right side, which had resulted in extensive adhesions. The pericardium contained about two drachms of fluid. The mesenteric glands were slightly enlarged; liver large but healthy; spleen very dark and shrivelled.

All these cases were regarded as hopeless by the time they came under my care; but they may be looked upon as good illustrations of hydrocephalus in its acute form. It is worthy of remark that in all of them there was distinct evidence of previous inflammation of the chest; while in two of them the mesenteric glands were found to be enlarged. These facts lead us to infer that the patients were of a weakly constitution, and that in cases I. and III. at least, there was a tubercular diathesis. Paralysis was not observed in any of these cases; but it ought to be remembered that frequently loss of muscular power in the arm or leg is the first recognizable symptom of approaching disease of the head. Cases have come under my notice in which a slight dragging of one leg, or a failure in the prehensile power of the hand, was the precursor of a fatal attack of hydrocephalus, and this symptom occurring in a child who has been previously healthy should always be regarded with suspicion. Squinting is another sign of grave importance in all intracranial affections; but in the three cases recorded above it was not present, although in Case 1 the pupils were unequally dilated.

TYPHOID FEVER IN CHILDREN.

In his "Clinical Records illustrative of the Diseases of Children," published in the *Dublin Press and Circular*, Dr. G. Stevenson Smith makes the following remarks on diet and treatment of typhoid fever in children:

With regard to the very important subject of diet we have merely to say that the patients are allowed sweet milk *ad libitum*, with small quantities of beef-tea occasionally, and this is all the food that is necessary. During convalescence, however, eggs are sometimes given, generally beat up in the form of flip. Solid food, such as beef, etc., is often productive of much evil, by being given too soon, and is a frequent cause of diar-

rhœa and feverishness. As to the use of wine and brandy, that is a subject which has caused a great deal of discussion, and concerning which much diversity of opinion still prevails. Experience leads us to take up no extreme position on one side or the other, for while we hold that stimulants are often used much too freely, and to the injury of the patient, we must at the same time admit that we have seen typhoid patients saved by the continuous and judicious administration of brandy. The fact is, that many cases will do well without a single drop of wine, while others need to be stimulated from the very first. There are some physicians who in every case of fever pour into the patient so great a quantity of wine or brandy, that the symptoms are rendered most complex and confused ; while others again, even when the patient's powers are flagging, when the tongue is black, and the teeth are covered with sordes, refuse to allow the administration of any stimulant whatever. The exercise of a wise discrimination on the part of the practitioner is therefore required to prevent his falling into error. If the diarrhœa is troublesome, sound port wine is the most suitable. When there is much nervous prostration, indicated by tremor of the tongue and hands, brandy ought to be given.

As to medication, the patients in the Children's Hospital, Edinburgh, generally are given the following ;

℞.	Acid. hydrochlor. dil.,	f. ʒ j.	
	Syrup. simplex,	f. ℥ j.	
	Aquæ,	f. ℥ iij.	M.

S. A dessert spoonful every four hours. Occasionally, if a stimulant is indicated, a drachm of the sp. æth. nit. is added. This mixture is very pleasant to the taste, and possesses tonic and refringent properties ; besides it is eagerly taken, and indeed often greedily demanded by very young children.

If diarrhœa exists, a few grains of DOVER'S powder are generally most useful. When the looseness is very persistent, a grain or half a grain of plumb. acet. should be added. When hæmorrhage occurs, enemeta of starch and laudanum will be found of much benefit, but occasionally more active remedies are required. Nitrate of silver in $\frac{1}{4}$ or $\frac{1}{2}$ grain doses, along with some preparation of opium, is often attended with much benefit. When the breath and evacuations smell badly, the chlorate of potass., dissolved in milk or water, and given as a drink, acts very beneficially.

If there is much tenderness of the belly, warm light poultices of linseed meal, or turpentine stupes are useful in allaying the pain, while an enema of castor oil, and a few drops of the tincture of asafœtida, will be of use in removing the tympanitis, which is frequently troublesome and distressing.

ON VAGINAL HÆMORRHAGE DURING PREGNANCY, LABOUR, AND THE PUERRERAL PERIOD.

Spontaneous hæmorrhages, the source of which is in the vagina, are upon the whole not very frequently met with during pregnancy, labour, or the puerperium. They owe their origin to the rupture of a vein, (unless they are—a still rarer accident—the consequences of foreign bodies in the vagina, a case which we leave out of consideration for the present; we likewise disregard in this place those hæmorrhages which have been caused during labour by extensive rupture of the vagina.)

In the affection under consideration, the blood either escapes outwardly, directly upon the rupture of one or more vessels taking place; or if a deeper seated vessel is ruptured, a tumor is formed in the labia, and in the walls of the vagina, which is generally known by the name of thrombus vaginæ. (*McClintock* calls this blood-tumor pudendal hæmatocele.)

All authors probably agree at present that the blood escapes chiefly from veins, without asserting, however, that arterial vessels *cannot* participate, which happens but very rarely. The occurrence of such a hæmorrhage, or the production of a thrombus, during labour and immediately afterwards, as well as in the puerperal period, is sufficiently explained by the considerable obstruction of the venous circulation in connection with excessive dilatation of the genitals during the passage of the child. (When the affection shows itself in the puerperium, its origin must, nevertheless, be referred to the time of labour.) During pregnancy, however, we cannot speak of such a dilatation, and the venous stasis, also, is not as considerable as during labour, although this agency must not be left out of consideration altogether. We find the cause of these hæmorrhages, in the period of pregnancy, in the greater fullness of the blood vessels of the pelvis, where some unusually thin-coated vessel can no longer withstand the increased pressure of the blood. We believe that we must assume such a predisposing thinness of the vascular coats, because hæmorrhages from ruptured veins must else be more frequent during pregnancy than they are really observed. Thrombus vaginæ, and spontaneous bleeding from ruptured veins of the vagina, during pregnancy, are among the rarest occurrences. Most frequently this affection occurs during labour, or rather immediately upon the expulsion of the child; but it is, in either case, one of the most perilous accidents, and demands, as such, the energetic interposition of art.

Regarding the state of the vessels upon which this affection is based, an opinion still prevails generally, which is by no means confirmed by practice. It is asserted by many that the anomaly in question is favoured by a varicose dilatation of the vaginal veins, although the fallacy of this

view has been proved by high anthorities. *Scanzoni* has, in eight cases of thrombus vaginæ, observed in but one woman a varicose degeneration of the veins, and that not very pronounced. In thirty-eight cases which *McClintock* collected, varicose dilatation of the veins occurred only twice.

Varicose degeneration of the veins, moreover, is observed chiefly in women who have born several children; yet *McClintock* found among twenty-five cases of thrombus vaginæ, thirteen women who were pregnant the first time. *McClintock* treated a large number of pregnant patients with varicosity of the veins of the vulva and vagina, without observing the pudendal hæmatocele in one of them. He is even inclined to draw from these circumstances the opposite conclusion, viz: that varicosity of the veins prevents the occurrence of thrombus vaginæ.

The prognosis of these hæmorrhages, and of a thrombus of the vaginæ, is always dubious; the patients may either succumb to the great loss of blood, especially when a large superficial vein has burst, and the blood is poured out immediately on the surface; or, in case of formation of a thrombus, they may perish in consequence of ichorous decomposition of the collected blood, or of extensive tedious suppurations and burrowing of pus. The treatment, of course, is very difficult according as we have before us a pregnant patient, a woman in labour, or one just delivered.

If in the course of pregnancy a serious hæmorrhage takes place, it is, in our opinion, best to tie the bleeding vessel, in case it can be reached, as has been done [in one of the author's cases.—Ed.]. The ligature certainly prevents a repetition of the hæmorrhage, and is least disturbing to the course of the pregnancy. In case the hæmorrhage is not very profuse, the use of cold may be sufficient—injections of cold water, introduction of small pieces of ice into the vagina, in connection with the various astringents; but in cases of very profuse hæmorrhage from a larger vessel, cold and astringent remedies will not answer the purpose. If the place of bleeding is high up in the uretha, or if the bleeding vessel is not superficial, so that it is impossible to ligate it *en masse*, the only remaining resource is plugging of the vagina; but in this case it is always necessary to be prepared for another effect of the tampon, viz: the induction of premature pains, and an interruption of gestation.

If a thrombus forms during pregnancy, we should confine ourselves to the application of cold, so long as it does not increase in size. If it is certain that no more blood is extravasated, it is, in our opinion, best, unless the tumor is very small, to open it and remove the coagula. These thrombi, during pregnancy, however, seem inclined very soon to open spontaneously, at least such was the case in the majority of the

observations known to us; nor does either the artificial or the spontaneous opening appear to have any deleterious influence upon the course of the pregnancy.

During labour, a thrombus vaginæ, or a *profuse* hæmorrhage from a ruptured vein of the vagina, demands immediate artificial delivery. The thrombus is to be previously laid open only, if the still increasing tumor forms a mechanical obstacle to labour. These cases are perhaps the most dangerous: the loss of blood can be so considerable that the woman dies undelivered; not a few such cases have been reported. Delivery by art must, therefore, be resorted to as quickly as possible.

After delivery the thrombus demands the use of cold and of the tampon so long as the tumor increases. As a matter of course, the state of the uterus must not be overlooked, in order to obviate the occurrence, during the *tamponnement* of the vagina, of an escape of the blood into the insufficiently contracted uterus. When the tumor no longer increases in size, it is best to open it by not too small an incision, and to plug the vagina, and perhaps the cavity of the emptied thrombus itself, for the prevention of a new hæmorrhage. Subsequently it is chiefly necessary to maintain the strictest cleanliness, by frequent injections into the vagina, under which simple treatment the cavity usually closes pretty rapidly. At all events, the duration of the affection is shorter if the thrombus is opened by art than when left to itself. In the latter case tedious suppuration and ichorous decomposition always ensue, to which, not seldom, are added pernicious forms of puerperal fever.—*Dublin Med. Press.*

Surgery.

ON FRACTURES.

By Dr. William Lyon, Surgeon to the Glasgow Royal Infirmary.

In the Glasgow Royal Infirmary fractures are very frequently at once put up in pasteboard splints, sometimes in a starch bandage. In this way, I believe, the patient suffers much less pain, and the practitioner a great deal less annoyance. Allowance is made for the occurrence of swelling; but if this happen, to any extent, it is easily relieved by splitting up the bandages. By this method of treatment, patients are often able to leave their beds in the course of two or three weeks. While in the simple fractures there is hardly any danger to life, we have found it a very different affair with the compound fractures. Out of four cases of compound fracture that I had lately in the hospital I lost three, and one still remains under treatment. In one, amputation was

performed, and the patient died of pyæmia. Removal of the bone was practiced in another, where amputation would not be submitted to, and perhaps this was fortunate, as pyæmia probably existed before the proposition of amputation was made. A third patient, who suffered compound fracture by his limb passing between the spokes of a wheel of a railway engine in rapid motion, and in whom there was much bruising and laceration of the soft parts, was thought, nevertheless, to have a chance of recovery without amputation. He went on very well for a week. Very high inflammation then set in, and this was followed by very copious suppuration. A thorough examination (an examination which could not have been instituted with any propriety at the time of his reception) was now made, and it was believed that his only chance was by amputation. It was performed, but he was seized with traumatic delirium and sank. In fact, so dangerous did we find compound fractures, that a remark was made by one of my colleagues (and I am almost inclined to coincide in it), that if in cases of compound fracture the universal rule was to amputate, a greater number of recoveries would take place. At all events I am deeply impressed with this, that in all cases of compound fracture it is of the very utmost importance to make a thorough examination on admission, to decide whether amputation should be performed or not; for if secondary symptoms are allowed to come on and to progress to a great extent, even though amputation be performed, there is little or no chance of recovery. And, therefore, in such cases, I have established the rule with myself to put the patient under chloroform, to ascertain by a careful examination of the parts whether an attempt should be made to save the limb, or amputation at once performed.

We have had cases of compound fracture and dislocation at the elbow, at the ankle, and very frequently in the fingers. You are all aware of the great danger of a large open articulation. Possibly you are not quite so much alive to the danger when the open articulation is a small one. All that time will permit me to do is to remind you of the great importance of performing excision in all cases of open articulations, whether large or small, as by this you dimiuish very much the hazard of the accident. A woman fell from her chair, and dislocated and fractured the end of the humerus, throwing it upon the front of the forearm. We performed excision, and in the course of a little while she recovered, with the limb in a condition very little worse for the accident. In the case, too, of a man whose ankle was excised, he left with a useful foot in a short time. A similar result was obtained in a little girl, in whom the soft parts in front of the ankle were completely divided. At

the time of her dismissal from hospital her foot promised to become exceedingly useful. I remember a very striking example of the efficacy of this mode of practice, and the danger of the contrary. A patient was admitted with an injury of the elbow, such as I have described to you, and I performed excision. One of my colleagues had a boy admitted under similar circumstances, about the same time, and he decided to reduce the dislocation and to stitch the wound. My patient, a man of fifty, recovered perfectly; the boy was dead in a few days. A man was admitted with compound dislocation of the thumb. It was reduced, but shortly afterwards cellulitis set in, which extended rapidly up to the shoulder, and the patient sank under it. I blamed myself very much indeed for not following up my usual practice, in all such cases, by excising the joint—an operation which I have good reason to extol.—*Glasgow Medical Journal.*

CASE OF ABSCESS OF THE BRAIN.

By T. B. Moriarty, A.B., M.D., etc., Limerick, Ireland.

The subject of this case was a young man of strong plethoric constitution, who was attacked by assassins on December 30. He received two wounds—one a lacerated, two inches in length over the occiput, which laid bare the bone, and bled profusely. The other an incised wound—the subject of these remarks—was inflicted over that part of the left frontal bone know as the "temple," in length two inches, with a deep depression in the centre which led to a depressed fracture. Compression later on ensued in consequence of the formation of an abscess between the dura mater and the bone. The wound in the back of the head got well rapidly, and as the depression did not interfere with the mental faculties an attempt was made to produce as much union as possible by the first intention. A bone abscess manifested itself, and the matter, which soon became offensive, ceased to discharge almost entirely after a fortnight's time. The early part of the treatment consisted of counter-irritation, purgatives, and calomel, with a diaphoretic mixture. From the outset there existed a slight incoherency in speaking without the occurrence of any epileptic fit.

On January 19 this man felt well enough to write three business letters.

On the 20th he appeared so much improved as to be allowed to use chicken broth.

On the 21st it is said he vomited a quantity of greenish fluid; and on the night of the 24th he was again seen by me, when his condition was

the following:—Lying quite insensible; pupils contracted; pulse 51. Neither asking for anything nor making known his wants in any way. There was no excess of urine in the bladder. These symptoms, as well as my previous acquaintance with the case, led me to conclude that there was an abscess lying beneath the frontal wound. On this account I demanded the assistance of another Doctor. Calomel was given in small doses every two hours.

The following day two pieces of bone came away, and on the ensuing day some two pieces more of bone were extracted. It was then proposed to trephine, as the attempts to raise the depressed bone were ineffectual.

On the 27th I enlarged the wounds longitudinally and laterally by a crucial incision. Another effort was then made to raise the bone by means of the elevator; while doing so, the matter which was very offensive, got exit, and in a few minutes our patient opened his eyes, and said, "Doctor, you are hurting me." He soon began to recognise those around him.

The following day the depressed bone was broken off, so as to leave no source of irritation; a quantity of sanious matter exuded, which was succeeded by a copious discharge of pent-up pus. As soon as the opening was cleaned the pulsations of the brain became quite visible. Mercury, with chalk, had been administered until salivation was effected, so as to guard against any tendency to meningitis.

February 1.—There has been a copious discharge from the wound, which is filling up with fibrous tissue. Patient going on very favourably; pulse 80; there is no relaxation of the sphincters.

24th.—Is now quite recovered.—*Dublin Medical Press and Circular*

GUN-SHOT WOUND OF THE BRAIN, THE BALL TRAVERSING BOTH HEMISPHERES. RECOVERY.

By John C. Hutchsion.

Lydia Lista, a little girl aged seven years, walked to my office July 4, 1864, with her mother, who stated that her daughter had been injured by a buck-shot fired from a toy cannon by her brother while at play. She fell to the ground immediately on receipt of the injury, and vomited soon afterwards. I introduced a probe into the external wound, which was situated on a level with the top of the right ear and half an inch posterior to it, expecting from the appearance of the child that the shot had not punctured the skull. The probe, however, entered the brain substance and passed in about four inches. There was no opening on the opposite side of the skull. I expressed an unfavorable prognosis, and sent the

patient home, requesting the mother to call her family physician, Dr. Isaac H. Barber.

I did not see the child again, but Dr. B. has informed me that there were *no symptoms* of any description indicating injury of the brain except some slight vomiting, which continued for two or three days. No treatment was deemed necessary except rest, and she soon appeared as well as ever. She remained in good health, going to school and playing as other children until January, 1865, when she was attacked with scarlet fever and died of that disease on the 17th of that month. She had no symptoms indicative of disease of the brain during her last sickness.

On the day after her death a post mortem examination was made by my pupils, J. C. Goodridge, jr., and J. H. L. Elmendorf. Hearing of the death but a short time before the funeral, and the family positively refusing an examination, being in an adjoining room, made it necessary to conduct it with the utmost secresy and as expeditiously as possible. The brain being removed was brought to my office for examination. The specimen shows by four slightly depressed cicatrices that the ball entered the posterior lobe of the right hemisphere, near its juncture with the middle lobe, and emerging from this it crossed the longitudinal fissure, entered the left posterior lobe and made its exit from the brain upon the opposite side; then traversing the cerebrum from right to left in a direction backward and upward. The condition of the brain at the points of entrance and exit of the ball were normal. The membranes were healthy. Finding the ball had passed entirely through, the brain substance had not fallen back into the original track, and could not be found by such incisions as would not injure the specimen, we assumed that it was imbedded in the skull near its point of exit from the brain, and that in the necessary haste of the examination it had been overlooked.

On examining the brain to-day, December 27, 1865, Mr. Goodridge detecting a point of unnsual hardness and a corroded substance, found the ball imbedded in the substance of the brain near the surface an inch and a half in front and half an inch below its point of exit from the left hemisphere. I suppose that after traversing the cerebrum the ball struck the skull of the opposite side and rebounding lodged in the brain at or near where it was at last discovered. The specimen has been in a preparation of corrosive sublimate and alcohol for nearly a year, consequently the ball was much corroded. The portion remaining presents an irregular angular appearance, and is about half its original size.

Recapitulation.—We have then a girl seven years old injured by a *buck-shot penetrating the cranial cavity.* The child *walking* to the office and back home. A *probe passed* into the track of the ball *four inches.*

No *brain symptoms appearing* except slight vomiting, which lasted but two or three days. *Entire recovery*, the child going to school and playing as other children. Subsequent death from another cause and a post-mortem examination revealing that there had *been no disease of the brain*; that the *ball* had *traversed* the posterior lobes of both hemispheres of the cerebrum, and rebounding had lodged in the brain substance, where it had remained with impunity, causing no inconvenience, and had become almost " a forgotten thing."—*Buffalo Medical and Sargical Journal.*

DISLOCATIONS OF THE HIP OF LONG STANDING.

Dr. D. J. Thomas, Surgeon to the Melbourne Hospital, read, at a meeting of the Medical Society of Victoria, a paper in which the following cases were related.

Case I.—On February 8th, 1865, Mr. Evans Morgan, a miner, consulted Dr. Thomas about a dislocation of his hip-joint. On December 15th, whilst working in a gold mine in the kneeling position, the earth fell upon him, causing his thighs to be widely separated. When extricated, he was taken to the surface; and it was discovered that he had sustained a dislocation of the head of the femur. An attempt at reduction was made, but without success. The following day he was taken to a neighbouring hospital, when another attempt was made to replace the head of the bone by means of pulleys, and with the aid of chloroform, In this attempt, he stated, the head of the bone became changed in its position; it was probably brought from the dorsum ilii to the sacro-ischiatic notch. After nine days, he commenced walking about; and seven weeks afterwards came to Melbourne to consult Dr. Thomas. He was a powerful muscular man. On February ninth, chloroform was given and, when he was under its influence, Dr. Thomas extended the limb, and rotated it in all directions, for about ten minutes, when the staple broke. It then occurred to him to try the plan recommended by Dr. Reed of America. He flexed the leg on the thigh, and gradually brought the thigh diagonally across the abdomen. He then abducted the thigh, whilst his assistant, who stood on the opposite side, got hold of the foot, and with some degree of force, pulled it across the lower third of the sound femur, whilst Dr. Thomas depressed the knee. The head of the bone entered the acetabulum with a loud crack; immediately upon which Dr. Thomas's attention was drawn to the patient's state. His face was livid, his tongue nearly black, and slightly protruding; there were no abdominal respiratory movements visible; no pulse could be felt; and his eyes were fixed. Without waiting a moment, Dr. Thomas opened the external jugular vein. At first no

blood flowed, but, on drawing the finger two or three times over the vein, it spurted out; and after about a pint had been drawn, the lividity had disappeared, the patient made a gasp, the pulse could be indistinctly felt, and in about five minutes, the breathing was quite restablished. It was then discovered that the bone had again become dislodged. Dr. Thomas pursued precisely the same manipulation, and, in a few minutes, again got the thigh to its proper place. A straight long splint was applied, and the two limbs were tied together. He was kept in this position in bed for a fortnight. The splint was then removed; but the legs were tied together for another week. He was then allowed to get up and use the leg; and in five weeks he could walk a long distance, with the aid of a stick, having only a slight limp.

Case II.—In 1859, a shepherd, named J. Buncle, was sent to Dr. Thomas, having a dislocation of the hip on the dorsum ilii of nine weeks' standing. Seven unsuccessful attempts at reduction had been tried. Dr. Thomas gave him chloroform, and applied pulleys, and the limb was kept on the stretch from 10 A.M. until 5 P.M. He was the whole of this time under the influence of chloroform, and every ten minutes or quarter of an hour a gentle pull was made on the pulleys. At 5 P.M., the relaxation of the muscles seemed complete, the leg of the affected side was flexed, and brought across the lower part of the sound thigh. A jack-towel was placed under the upper part of the thigh to pull it outwards, the pulleys were relaxed and the knee depressed, and the bone regained its natural place. In three weeks, he left town, and could walk a little with the aid of a stick and crutch.

Case III.—On November 5th, 1861, John Prytherch, aged 18, midshipman on board the *Swiftsure*, was admitted into hospital with dislocation of the head of the right os femoris into the sacro-ischiatic notch. The accident occurred from a fall on board ship two months previously, and the attempts at reduction had proved abortive. On November the 7th, chloroform was again administered, and extension kept up for some time, without any beneficial result. On the 8th, chloroform was again administered, and the pulleys applied without success. On November 11th, the patient was transferred to Dr. Thomas, and reduction was again attempted, the patient being under the influence of chloroform. Extension by means of the pulleys was kept up for an hour and a half, when the head of the bone was found to have moved considerably. The thigh above was elevated by means of a sling. The leg was flexed, and drawn across the front of the sound thigh, in order to rotate the bone outwards, and the knee at the same time depressed. The bone was then brought to its proper situation. A splint was applied, and he was

kept in bed for some weeks; and, on December 28th, he was discharged cured.—*Australian Medical Journal*, September, 1865.

THE GUTTA-PERCHA SHOE IN THE TREATMENT OF TALIPES.

By Alfred C. Post, M.D., Professor of Principles and Practice of Surgery, University Medical College, N. Y.

About sixteen years ago I was treating a little girl for talipes varus, with a modification of Scarpa's shoes, which I was then in the habit of employing, when troublesome ulceration of the integument occurred from the pressure of the straps which were used to secure the shoes upon the feet. It was evidently a matter of necessity to omit for a time the use of the shoes, until the ulcerated surfaces should have an opportunity to heal. I was much chagrined by the prospect of a long delay in the treatment, especially as the patient resided in the country, and it was quite inconvenient to the parents to keep her for a long time in the city. I was led to reflect on the best means of preventing a return of the deformity towards its original condition, during the period when I should be obliged to suspend the use of Scarpa's shoes. It occurred to me that a splint or shoe of gutta-percha might be applied in such a manner as to maintain the improvement which had already been gained by the treatment, if not to make some further advance towards the cure of the deformity. I accordingly contrived and applied such an instrument, keeping it in place by means of a roller bandage. I found that by this means the feet could be maintained in a good position, with very little inconvenience to the little patient; and under appropriate dressings, the ulcerated surfaces soon healed. To my surprise, the deformity yielded more readily to the new treatment than it had done while Scarpa's shoes had been worn, and I felt no disposition to return to the use of the spring shoes after the ulcers had healed. From my experience of the benefits of the simple contrivance which I had used in the case just alluded to, I was induced to employ it in similar cases which were presented to me; and the results were so entirely satisfactory, that I have ever since employed shoes or splints of similar construction in the treatment of infantile clubfoot, in preference to the spring shoes which surgeons ordinarily emplay for the same purpose. The material which I ordinarly use in the construction of these shoes is a gutta-percha sheet from a sixteenth to an eighth of an inch in thickness. It is cut of such a shape as to adapt itself to the sole and sides of the foot, leaving a space uncovered on the dorsum of the foot equal to about one third of the breadth of the foot; it is also adapted to the sides of the leg, extending up two-thirds

of the distance to the knee, and leaving a narrow space uncovered before and behind, each space so uncovered being about one-sixth of the circumference of the leg. The material is readily moulded to the shape of the limb, by immersing it for a few seconds in water, at a temperature of 100° Fahrenheit. I am in the habit of moulding the shoes thus heated, over a wooden last made for the purpose. The last is not made after the fashion of a bootmaker's last, but it is shaped like the natural leg and foot, except that the outer side of the foot is made to correspond with the inner, thus obviating the necessity of having separate lasts for the right and left foot. I have sometimes used similar shoes made of felt stiffened with shellac, as manufactured by Dr. Ahl, of Southern Pennsylvania. In order to mould the felt, it must be dipped in water at nearly a boiling temperature, and the hands require to be protected by means of cotton gloves wet with cold water. I am rather inclined to prefer the gutta-percha shoes to those which are made of felt, especially as the former material is more conveniently moulded to its proper shape.

I generally commence the treatment of infantile clubfoot by the subcutaneous division of the tendo-Achillis, after which I apply a strip of isinglass plaster over the small wound of the skin. I then have the foot held by an assistant as nearly as possible in its normal position, and while it is so held, I carefully apply a roller bandage so as to cover the foot and leg, beginning the application on the outer side of the ankle. I then apply the gutta-percha shoe, an assistant grasping the leg with one hand, pressing the upper part of the shoe against the sides of the limb, and with the other hand pressing the sole of the shoe against the sole of the foot. While the shoe is thus firmly pressed against the leg and foot, I apply a roller bandage firmly, so as to secure it in its place. After the lapse of twenty-four to forty-eight hours, I take off the bandages and shoe, wash the foot, wipe it dry, use passive motion freely in different directions, and then reapply the apparatus as before. The application is repeated at intervals of two or three days, until the foot is brought to its proper shape, when it is put up in a laced boot, lacing to the toes, and having a firm sole and stiff sides, provided with iron braces which exend nearly as high as the knee, and secured by a strap and buckle around the upper part of the leg.

The following are, in my estimation, the advantages of the gutta-percha shoe over Scarpa's shoe, and its various modifications :—

1st. Its greater simplicity, and the ease with which it is made. When the material is at hand, the shoe can readily be made in fifteen minutes.

2nd. It is much cheaper than the spring shoe.

3rd. It is more comfortable to the patient, being lighter, exerting a

less injurious pressure, and being less likely to be kicked off by a restless child.

4th. It is much less likely to occasion excoriation or ulceration of the integuments.

5th. It expedites the cure, giving a better support to the foot, and bringing it more readily into its normal position.—*N. Y. Med. Record.*

CONGENITAL HYPERTROPHY OF THE TONGUE. AMPUTATION.

By Alfred Bolter, M.D., Ovid, N.Y.

The subject of this malformation is a girl of a little over three years of age—of large physical development, and of healthy parentage. The unusual size of its tongue was noticed at its birth, and, the mother says, continued to grow with its growth. It materially interfered with the process of suction, but did not wholly prevent it.

My attention was not called to the case until after the period of dentition. The tongue was then protruding from the mouth to the extent of something more than an inch. Its appearance was tumefied, red and glossy, as if inflamed. But I soon discovered that this was not the case. There was no unusual heat, or tenderness, or febrile excitement. It was obviously a case of preternatural growth, or abnormal enlargement, and not one of *disease*, any more than an extra finger or toe would be. I advised nothing to be done except the removal, by the knife, of so much of the organ as prevented the teeth and lips from coming together. After explaining, as fully as possible, to the parents, the nature of the operation—its dangers and probable and possible results, they determined, after long deliberation, that it should be done.

Accordingly, on the 12th of December last I proceeded to the work, assisted by Doctors Post, Morris and Woodward. I should here remark that the child, at this time, was in perfect general health. But its tongue had become a much more unsightly and disgusting deformity. It was constantly dribbling with saliva, and parts of the exposed surface were blackened, dried and shriveled. Fissures traversed those parts, from which flowed considerable quantities of bloody serum. This was, no doubt, very much aggravated by the child frequently picking the surface of the tongue with its fingers. The countenance of the child was, of course, filthy and revolting, despite every parental effort at cleanliness. From the size of the tongue, the orifice of the mouth appeared nearly circular, and to be entirely filled when the features were in repose. The under lip was everted upon the chin, and the lower incisor and canine teeth, covered with tartar, were projected obliquely forward. The

tongue was of firm and cartilaginous consistence, but with no unusual sensitiveness to the touch.

When every thing was made ready for the operation, the patient was put under the influence of chloroform and sulphuric ether, in the proportion of one part of the former to two of the latter. She readily became insensible. Her limbs and body were then firmly wound with strong toweling, so that all motion might be easily prevented; for in that case I was apprehensive that it might be impossible, or very difficult, to repeat the anæsthetic on account of hemorhage. The child was then held in a sitting posture, in the lap of an assistant, and, taking a chair directly in front, I first passed a strong ligature through the body of the tongue, for the purpose of enabling me to hold it with more facility. Then drawing the organ forward, I thrust a straight, sharp-pointed bistoury underneath, pushing it obliquely backwards and upwards, and bringing out the point near the median line, and then cutting obliquely outwards towards the canine teeth, thus making the left flap. After securing the raninal artery, the only one that required ligature, I then passed through this left flap, laterally, a double suture, for the twofold purpose of joining it to its fellow, soon to be made on the other side, and also to give me control of the organ after the part to be removed was entirely separated and the tongue retracted within the mouth.

The instrument was then again passed through to form a corresponding flap on the right side, leaving, however, a narrow central septum uncut until the bleeding vessels, two in number, were tied. This part was then divided, and the piece removed was in the shape of an inverted letter A.

The tongue, now forked in shape, retracted within the mouth. The next step was to draw it forward by means of the suture already passed through the left flap, and then to pass the same suture through the right flap from its inner face to the side, then approximating the cut surfaces of both flaps firmly together, and securing them in that way, by dividing the suture, and tying one part on the dorsum and the other underneath the tongue. The extremities of the flaps were then brought together by a single suture passed from side to side and tied upon the apex. This completed the operation, and a pointed, well formed tongue was made, with no part of cut surface exposed. The time consumed in the whole of this work was about twenty-five minutes.

The piece removed was one inch and five-eights in length, on inch in vertical thickness, and five inches and five-eights in circumference. This was, relatively, an enormous growth.

All the cases recorded, that have fallen under my observation, have

been those of adults, and while they have been described as of much larger proportions, it will doubtless be conceded that the case I have detailed exceeds them all, when the age and development of the parties are taken into the account. The hemorrhage attendant upon this operation, although considerable, was quite easily controlled. The oozing of blood was very little after the sutures were adjusted.

The inflammation, for several days, was severe, causing the tongue to swell so largely as quite to prevent deglutition even of the blandest fluids, and rendering the child, most of the time, restless from pain. This acute state passed pleasantly away about the fourth day, when the ligatures from the arteries came off spontaneously. The treatment consisted of cold applications and washings, mainly, with a very limited use of antimonials and opiates.

The sutures were not removed until the tenth day, when the union was nearly complete.

The recovery of the child has been rapid, and the indications now are of a perfect success. The lips can already be closed, and the teeth nearly so. There is every prospect that, in a few weeks more, both will come together in a perfectly natural way, and this great deformity will never again offend the sight of the patient or her friends, or subject her to the numerous disabilities which its existence occasioned.

Sugeons have generally been deterred from amputating any considerable portion of the tongue on account of its great vascularity, and the danger of an uncontrollable hemorrhage. The success of this case, and of others that have been reported, prove that this peril is not so great as it has been supposed to be.

Cases of this kind are not of frequent occurrence—at least, few have been reported. Dr. W. G. Delaney, U. S. Navy, in a case reported by him in the American Journal of Medical Sciences, No. 32, October, 1848, says that his case, and two others, recorded by Dr. Thomas Harris, Phila., in the same journal, November, 1830, and May, 1837, were the only ones of the kind, to his knowledge, in the United States.

Since that time few, if any, cases have been put on record. But be this as it may, the case, in any view that may be taken of it, will, doubtless, be regarded as of sufficient interest and importance to merit a place in the annals of surgery.—*New York Medical Journal.*

Menorrhagia.—Give a drachm of finely powdered matico in two ounces of water.—*Braithwaite, Part* 16, *p.* 347.

Dysmenorrhœa.—Give quinine and prussiate of iron.—*Western Lancet.*

Medicine.

THE HYPOSULPHITE OF SODA IN SCARLET FEVER. WILL IT PREVENT THE DISEASE?

By N. L. North, M.D., Brooklyn, N.Y.

There is a great popular dread of scarlet fever in all civilized communities—more than of any other of the so-called ordinary exanthemata. Vaccination has wonderfully mitigated the fear of small-pox, and measles is generally looked upon as a complaint of little moment. But scarlatina, having cut down the favorite flower of so many families, and left its incurable sequelæ to mar the physical powers or appearance of so many other loved ones, has come to be looked upon as a lion in the path of life by fond parents the world over. Whatever, then, may be found in the way of treatment to lessen its virulence or prevent its occurrence, will be hailed by the public, as well as by the profession, as of vast importance.

Belladonna has been claimed as a prophylactic, and very likely does exert some influence in that direction; but it is so uncertain in its effects as to have almost entirely fallen into disrepute and disuse. Domestic remedies to "prepare the system for scarlet fever," or to prevent it, are as numerous almost as the cases themselves. Some seven or eight years ago I was attending a family, when one of the children was taken sick with this disease, and, as usual, the child was medicated before the "doctor" had been sent for, and in this case "cream of tartar and sulphur" was the cure-all, and the patient had had its dose, and I was, upon my arrival, called upon for permission to have it given the other (healthy) children as a preventive. I assented, and to my astonishment, and to the great gratification and pride of the "friend of the family," who had suggested it, none of the other of the numerous children of the family were attacked by the disease. As, however, that was no uncommon occurrence, and knowing that scarlet fever does often attack one or more members of a family and not all, I thought very little of the circumstance until in the same neighborhood I saw and heard of the same thing being repeated several times with the same result, when I thought it worth while for me to try it. Accordingly I began giving the "cream of tartar and sulphur" also, to "prevent scarlet fever;" and, though it often failed in its work of prevention, I could but think that it sometimes had prophylactic power; and believing it to be the sulphur, I concluded to combine that drug, in its precipitated form, with the extract of belladonna, and give it in all cases where children coming under my care had been exposed to the scarlatinal poison, and I believe often with the effect of preventing the disease.

After the promulgation of Dr. Pallis' theory of the use and effect of the sulphites and hyposulphites in the zymotic diseases, and after I had seen something of its use in typhoid fever, I concluded to give this remedy a trial in scarlatina, and have since given it very frequently as a remedy of much power, as I believe, in controlling the symptoms of the developed disease, by eliminating or destroying the poison, and also as a prophylactic.

On the 12th of February, 1865, I was called to attend a little child of Mr. T., of this city. The child was about one and a half years of age, and suffering with a severe attack of scarlatina-anginosa. I gave five grains of hyposulphite of soda, dissolved in syrup and water, every four hours, and ordered that the well child, who was about three years of age, should have the same dose three times a day. The patient improved rapidly and with ordinary attention soon recovered, and the other child showing no symptoms of the disease, the medicine was discontinued after five days.

In the early part of June, 1865, I was called to attend Miss S., a stout girl, of fifteen years of age, who had been exposed to and had taken scarlatina, which was, when first seen by me, fully developed. I used the same remedy in ten-grain doses every three hours, and gave five grains three times a day to a little girl of four years, who had been with her most of the time since she had been complaining, and who continued to stay with and around her during her whole sickness. The patient recovered rapidly, seeming to be favorably affected by the hyposulphite, and the little girl, with whom the medicine was continued a week, had no symptoms whatever of the complaint.

Again, by reference to my notes, I find an interesting case, commencing April 4, 1865. Mr. F. has two interesting girls, one eight and the other two years of age. The eldest was taken sick with scarlet fever, and I commenced giving, in connection with other remedies, the hyposulphite of soda, in five to eight grain doses every three or four hours, and three grains three times a day to the little one. After the first day's treatment I myself was taken ill, and obliged to ask a neighboring physician to take charge of my patients, which he very kindly did, including the scarlet fever patient. After three days I again got about, and was advised by my friend, who had attended my business, to be sure to see this scarlet fever patient early, as he thought it very probable I should lose her. I did, and, of course, as I had not urged it, the hyposulphite treatment was not followed either for the child with the fever or the one exposed to it. I immediately returned to the plan of treatment I commenced upon, and in twenty-four hours thereafter my patient was much

improved. I also gave the medicine to the little child, but not to my satisfaction, as it produced a cathartic effect, and I was obliged to discontinue it. About seven days from the time I was first called, the older child was fairly convalescent, but the younger began to complain, and show symptoms of the approaching malady, so that I now gave to her the medicine in smaller but frequently repeated doses, and after some three days of listlessness, with poor appetite and slight soreness of the throat, she commenced improving, and had no further symptom of the disease. About the ninth day from the attack of the first child, one of the attendants, a miss of eighteen, who had never had the fever, began to complain of headache, sore throat, &c., and was much frightened. To her I gave ten grains of hyposulphite of soda every two hours, and, after about sixteen hours, catharsis commenced with relief of the symptoms. She continued the medicine, ten grains three times a day, for four or five days, and had no further symptoms of scarlatina, except that the throat was not entirely well for four or five days.

Mr. S. has a family of five children, all quite young, none of them ever having had scarlet fever. Was called, June 27, 1865, to see the youngest, a child of two years of age, who was covered with the scarlatinal eruption, had a very sore throat, and who otherwise presented unmistakable symptoms of scarlet fever. I used the hyposulphite, with, however, not very marked good effect, so that I had to fall back on old remedies. The child finally, after a very severe and protracted sickness, recovered. The peculiarly interesting part of this memorandum is that the other four children were given the hyposulphite, according to their several ages, and not one of them took the disease.

One other note and I will close. A Mr. B., of Wilson street, this city, has brought up a large family, and all have had scarlet fever, and suffered terribly, except two of the younger ones. I was called in haste, on November 24th, 1865, to see the youngest of these two, and found a well marked and well developed case of scarlatina. I immediately resorted to the hyposulphite of soda for both the sick one and the well one, and had the satisfaction of seeing the sick one recover rapidly from a severe form of the disease, with no other remedy than the one mentioned and some chlorine water as a gargle for the throat. The other child, although in the room with the sick one most of the time, presented no symptoms whatever of the complaint.

I am not so sanguine as to suppose that we have in the hyposulphite of soda an unfailing remedy for this dreaded malady, or even a positive prophylactic; yet I have a strong belief that it may prove beneficial both in the treatment and prevention of scarlet fever. I have hastily recorded

these brief notes of cases, with the hope that they may have the effect of inducing others to try the remedy and report upon its effect.—*New York Medical Jonrnal.*

A CLINICAL LECTURE ON THE TREATMENT OF TUBERCULAR PHTHISIS.

Delivered in the Theatre of the Cork County and South City Infirmary, on the 27th April, 1866, by W. C. Townsend, M.D., Senior Physician to the Infirmary.

We proceed this morning to the consideration of the treatment of tubercular phthisis.

During the last four lectures we were occupied, I trust profitably, with the consideration of this fearful disease, which, unfortunately, owing to its great prevalence, our hospital affords you ample opportunities of investigating in its different stages.

To some of you, I have no doubt, there appears to be a great amount of sameness in the several cases, and many wonder how little in the shape of medicine, I order for those under my charge; but the truth is, gentlemen, the older we grow, the less faith we have in physic; and I have no hesitation in telling you that the medical management of consumption pre-eminently consists in a liberal and judicious diet, in residence in well ventilated apartments, where there is a constant and fresh supply of unbreathed air; in exercise in the open air, I would almost say in all weathers, taking due care at the same time that your patient is warmly clad. In my opinion, this plan will do more to prevent the development or growth of tubercle than any or all the medicines of the Pharmacopœia.

But you will not, I hope, misunderstand me, or think for one moment that I undervalue medicines when judiciously used, but I wish, now at the close of our winter session, and after the careful consideration we have given this subject, that you should have correct notions as to the treatment of this terrible disease.

Doubtless you have often been surprised, as I pass from bed to bed, at the apparently little variety in my treatment; and I can almost fancy I hear you say "always the same"—cod-liver oil, iron, opium—and you are to a great extent right, gentlemen. You have great advantages over your fathers in the profession. You are now in a position, if you will use it, to reap the great harvest of their experience; and I venture to assert that in no disease is that harvest more abundant. Great as the advantages are that we have derived from the glorious discoveries of Laennec, they are as nothing when compared with those which an

enlightened pathology has conferred within a very few years on the treatment of tubercular diseases. It is quite true we owe to him and others the knowledge of those physical signs whereby we are enabled to diagnose with such painful certainty the presence of tubercular disease of the lungs; but it is equally true that we are deeply indebted to Bennett, Thompson, and a host of others, who have based the treatment of this disease on true principles derived from an accurate knowledge of pathology. To the first class we owe the great debt of teaching us how to diagnose during life, and after death, the ravages of this fearful malady; from the latter, we learn that our efforts should be directed—*first*, to check the tendency to the disease, and *next* to arrest or cure it in its progress. It is truly deplorable that even at this present time such erroneous notions should be held as to the treatment of this disease. Forgetful or ignorant of the cause, it is too much the habit of many practitioners to devote all their energies to what is in reality not the disease, but its result or effect; and the unfortunate patient is made to swallow any amount of cough mixtures, to submit to any amount of blistering, with an occasional leeching—a plan of treatment which might be allowed if it did no harm, but which, tending as it most assuredly does, to the further developing of the disease, cannot be too strongly deprecated.

Of all the constitutional maladies that I am acquainted with, *there is none that more can be done for than tubercular phthisis.* It is now an admitted fact that in the very early stage, even where the constitutional tendency is largely inherited, a great deal may be done for the patient, even if he be not completely cured; and there is little doubt that even in the second and third stages of the disease, a judicious treatment will often prolong life for several years. It is well for you, then, to study carefully the principles that should guide you; and I may here take the liberty of reminding you of what I have so frequently called your attention to at the bedside, *that every case of tubercular phthisis has its own natural history, and must be treated on its own peculiar merits.* Unfortunately, in the great majority of cases of tubercular phthisis we do not see the patient until the disease is somewhat advanced; in such the chances of cure will be in the majority, in proportion to the amount of lung injured; not that I wish you to understand by any means, that where a portion of lung is engaged, that person must of necessity die. On the contrary, I have seen and known several, where there could be no reasonable doubt of a large amount of lung being engaged, recover perfectly. Pulmonary consumption is entirely a disease of debility,

whether it be inherited or acquired; and the treatment of it in every stage appears to me to be "*support.*"

Now, there are two classes of patients which present themselves to us from time to time. Among *the first* we find those who are surrounded by every luxury that wealth can produce; *the second* includes those who are exposed to every privation, who are ill-fed, ill-clad, living in badly ventilated apartments, and eking out a miserable existence. The only wonder in such cases is that they so long resist the development of disease.

I have already told you that it is a disease of debility, and it now becomes my duty to tell you from my own practical experience how you can best remedy that state of system which leads to the growth of tubercle.

First, above all, I recommend that the patient should breathe a pure air. I find that within the last twelve months there were admitted into the Workhouse Hospital of this (Cork) Union, 184 males suffering from tubercular phthisis. I have paid some attention to this important subject, and I find that they are principally composed of tradesmen and indoor servants; while cabdrivers, and those whose occupation keep them constantly in the open air, seldom suffer. Again, I have observed that consumptive patients who remain constantly in hospital, where they are well fed and carefully preserved from changes of temperature, succumb to the disease more readily than those who after a short stay leave, often badly clad, to resume their ordinary avocations. I need say no more to prove to you how indispensable is a pure air for the consumptive patient.

The next point to be considered is *the regulation of their diet.* A consumptive patient should be well fed, and his food should be easy of assimilation; meat, eggs, porter, wine, butter-milk, should be used; and his diet should be so arranged that, instead of giving him two or three meals daily, he should have five or six. I emphatically state that no consumptive patient should be allowed to remain longer than four, or at furthest five hours, without food. He should have food late at night, and very early in the morning, and some nutritious drink should be placed at his bedside for the night, should he wake.

I now pass to the medical treatment. If a consumptive patient has a fair appetite and digests his food, you had better take care you don't destroy his appetite by the use of what are commonly called expectorants, cough mixtures, sedatives, &c., &c., which, instead of doing the unlucky patient good, do him an immense amount of mischief. If, on the other hand, his appetite be bad, take care you don't overload his stomach; give him

bitter tonics, quinine, strychnine, and such medicines as will have the effect of bracing up his system, and gently stimulate the relaxed mucous membranes; above all, avoid, unless absolutely called for by bronchitic or pneumonic complications, blistering, leeching, application of iodine, &c., &c.—a system of practice which cannot be too warmly deprecated, as evidencing an unpardonable amount of ignorance of the pathology of the disease; for you should always have before your eyes that your treatment must be directed to remedy that state of system which leads to the further separation or growth of tubercle, taking little heed of that which is already formed.

Of all the medicines introduced to the profession for the improvement of the general health, and therefore for the treatment of pulmonary consumption, none are so conspicuous as cod-liver oil and iron. These, either separately or together, appear to exert a greater influence in arresting the state of system which leads to the growth of tubercle than any other known remedies. I have not time nor inclination to enter into the different discussions as to how they produce such remarkable effects, but that they do so is beyond all reasonable doubt. The use of cod-liver oil is indicated in all stages of the disease, and as there can be no doubt that the bronchitic, pleuritic, and pulmonic complications, which so frequently present themselves, are altogether dependent on the unhealthy condition of the blood, I see no reason why its use should be discontinued during their presence.

In the latter stages of this disease you will find that the various preparations of opium, in one or other of its forms, allay pain, restrain the cough, check diarrhœa, produce sleep; and, in hopeless cases, promote *euthanasia*, by soothing the dying moments of the poor sufferer.—*Dublin Medical Press.*

BATHS.

Perhaps we owe an apology to our readers for bringing to their notice matters apparently so trivial as those of which we are about to treat. We trust that their importance and the fact that such subjects are but little understood by the younger members of our Profession may be accepted as a sufficient excuse.

We propose to treat, first, of baths, their various methods of application, their action, and their uses.

Baths, as is well known, are of various kinds. The water composing them may be hot, cold, or tepid. They may be used generally or locally. To the water various substances are sometimes added.

It may be accepted as proved that none of the constituents of baths

are absorbed by the skin. Many experiments have been made to ascertain the truth of this statement. None of the ingredients that were added to the bath could be found either in the urine or in the other excreta. Nay, it is highly probable that even the water itself is not absorbed by the skin. Thus the effects they produce on the system must be due to their action on the skin in virtue of either their moisture, their temperature, or of the ingredients that the water may contain.

We shall first speak of the general cold bath—baths composed either of simple or of sea water, and whose temperature varies from 40° to 75° Fahr. These baths produce their effects by virtue of either their moisture or their low temperature. This latter property may act either by its influence on the cutaneous nerves, thus producing shock, or by abstracting heat from the body. It is probable that they produce their effects by means of all these properties. By their moisture they cleanse the surface of the body, and thus promote the proper functions of the skin.

But cold baths are given for other effects than these. If properly used, the cold bath becomes one of the most powerful tonics we possess. If improperly applied, it may inflict serious mischief on the person using them.

The remarks we are now about to make apply to both cold simple and cold sea baths, but especially to the latter. We shall subsequently point out in what way these two kinds of baths differ.

On entering a cold bath a feeling of depression is first experienced. The pulse is greatly quickened, but loses much in force. The respirations are hurried and irregular. There is a feeling of chillness with great diminution of the temperature of the surface of the body. This condition, however, quickly changes. The surface of the body glows; the pulse gains in force. There is a sense of increased vigour both of mind and body; the spirits are greatly exhilarated. This continues for a variable period, and is then again followed by a feeling of depression, accompanied by chillness and a feeling of languor and exhaustion.

Baths, as we have stated, are given for their tonic effects. To secure these it is necessary that the patient should leave the bath during the second stage. If left at this time the condition of that period remains during the rest of the day. Thus given, the appetite is increased and digestion and assimilation improved. There is increased vigour of the body, with a desire for exercise. The patient is cheerful, the spirits more buoyant. If, however, the bath be remained in, the depression of the last stage becomes permanent. The patient remains languid, fretful, irritable. The appetite is lessened. Much chillness may be felt during the day.

He is disinclined to exertion, and often experiences a sinking at the epigastrium. These results are to be most carefully avoided.

How long should persons remain in the water in order to obtain the greatest tonic effects? To answer this question in an individual case, two points must be kept in mind—namely, the strength of the bather and the coldness of the water. With persons whose health has been impaired by excesses of any kind, by over-work, bad air, or who are convalescent from an acute disease, the first two stages pass quickly by, and they speedily pass into the stage of depression, which becomes permanent for many hours afterwards, and often for the rest of the day. Hence the time the patient be ordered to stay in the bath must be regulated to the vigour of his system. It is also most important to recollect that if the shock be very great, no second stage may occur, but the patient passes at once into the third stage and remains languid and depressed, with an impaired appetite during the remainder of the day. Thus it is important to regulate the shock to the strength of the patient. The amount of shock is dependant on the coldness of the water. Water, moreover, in motion, as is the case with the shower bath, produces much more shock than water at rest.

These principles teach us how to administer baths to persons in different degrees of health, and will explain the directions we are about to lay before our readers. These rules, however, are not merely deduced by the principles just stated, but they are the conclusions arrived at by those who have enjoyed a wide experience of baths.

Persons unaccustomed to bathing, if in health, should only stay in the water ten to fifteen minutes. Should they prolong their stay in the water, the bath is liable to produce much depression, and consequently fails to produce the desired tonic effect. By habit, however, the system becomes accustomed to bathing, and thus after their frequent use persons can often remain in the water half an hour or longer with good result. The length of time that the bath should be used depends on the temperature of its water. The colder the water, the shorter the duration of the bath, as we have seen that the amount of shock is in proportion to temperature of water and the time it is used. With weak people the duration of the bath must be considerably shortened. The time must be strictly regulated to their condition of health. The weaker the patient the shorter the time, as we have seen that in such persons the second stage lasts but a short time, and is quickly lost. Such persons can seldom remain in the water more than five minutes without suffering harm. If the patient's health be much depressed, he should be directed merely to dip into the water and allow a billow to wash over him, and then immediately to leave the water.

In determining the temperature of the water we must have regard to the strength and condition of the patient, for if the shock be too great we obtain only depression, and thus if the patient be very weak the water must not be very cold.

Persons of plethoric habit must bathe with much caution, for the excitement produced in such people may be too great, and thus headache, giddiness, congestion of the brain, may follow the use of the bath.

Children under two years of age should not have cold sea or fresh-water baths given them. At this early period of life they are easily influenced, and may be seriously injured. Warm sea bathing for such is preferable, or the cold bath may be administered in the following way: —The child must be placed (or, if too young to stand, held) with its feet in warm water, and before a good fire, and cold water should be poured over the body for one to two minutes. The water should not be applied to the head. When administered in this way, very young children may have cold baths given them with the very best result. The same method should also be adopted with older children if they be weak, or if the weather be very cold, or the water may be slightly warmed in addition.

May pregnant women bathe? If they have had previous abortions, if they be nervous and irritable, baths had better be abstained from. Under other circumstances, both the mother and child will be much benefited by sea bathing. It is also unadvisable to commence a course of bathing at the time of menstruation, and at first bathing should be discontinued at these periods.

Patients who are very weak should not at once commence to bathe in the cold sea; with such the system may be so weak that only depression will result from the use of the bath. In such people cold bathing is apt to cause shiverings, trembling, a feeling of excessive fatigue, and with loss of appetite and other symptoms, and these results continue for the rest of the day, and often much longer. If such symptoms occur, or if the patient be considered too weak for cold bathing, tepid baths should be used, and the temperature of these should be daily lowered until the temperature of the sea is reached. It has been stated that water in motion produces a greater shock than water at rest, and we have seen that the amount of shock must be regulated to the condition of the patient; consequently, weak people should bathe in a calm sea. Persons of stronger health may choose a rough sea; for the action of the billows on the body is pleasurable and exhilarating to the spirits, and in such persons produce great tonic effects.

Too much exercise in the water should be avoided by weak people, as such are liable to be easily fatigued, and then depression follows. Patients

should have directions given to them in respect to the time of day and season of the year at which they will profit from sea bathing.

At what time of the day can patients bathe with the best results? At that time when they are least liable to be depressed. Early in the morning, when the system is fasting, such a result is very liable to occur. Invalids, therefore, should be prevented from bathing before breakfast. But due time must be allowed for the digestion of the meal, as any strong impression on the mind or body is liable to arrest or destroy digestion. Therefore two hours should elapse after breakfast, and three after dinner, before the bath be taken. At this time also the water is warmer. It is preferable to take the bath after breakfast than later in the day. Even strong persons unaccustomed to bathing are liable to be much depressed by a bath taken before breakfast. Children should never bathe before ten or eleven. The patient must be directed to plunge at once into the water, and not to stand shivering for some time until the surface of the body is cooled. He should dip down and allow each wave to pass completely over him. It is the temperature of the sea to which we must have regard when we give direction to patients at what time of the year they may bathe with advantage. If the patient is not much debilitated, the months of May and September are good, and they should choose a shore on which the billows are rough. If, on the other hand, the patient be weak and depressed, the summer months are preferable, and a calm sea should be chosen.

The hair often falls off greatly at the commencement of bathing. This causes much alarm to the patient. Their fears may be quieted by the assurance that it will grow again more luxuriantly than ever.

If the patient be very weak, he must not indulge in much physical or mental exertion after the bath, as such exercise is apt to cause overfatigue. Thus patients should have careful directions given them in this respect. Horse exercise is often good, as this does not require much exertion; but if the patient be very weak, carriage exercise is to be preferred. It is stated that persons who have commenced a course of sea-bathing are easily influenced by wine.

Various irregularities of the various functions of the body are apt to occur at the commencent of a course of bathing. Thus constipation is not infrequent. This must be remedied by purgatives, diet, or exercise. It need not hinder the bathing. If dyspepsia or diarrhœa occur, it is better to suspend the baths for a short time. Irregularities of the menses need not cause the patient to desist from the use of baths. Restlessness at night sometimes occurs at their commencement. If this be not very great, the baths may be continued. The diet of the patient should be

carefully regulated. Stimulants should mostly be abstained from previous to the time of going to bed. Before entering the bath care should be taken that the body be not overheated by exercise; on the other hand, the patient should not be cold or chilly. Thus it is often desirable that slight exercise should be taken previous to their use.

All strong emotions should be avoided before bathing, and if they occur, especially of a depressing kind, the bath should be omitted. It follows that children who dread the water should not be compelled to enter the sea, but should be coaxed in. If timid children be violently plunged into the water, they may be made very ill for several days. On leaving the bath a short walk should be taken. Two baths a-day can seldom be indulged in.—*Medical Times and Gazette.*

BLACK OR BLACKENED SKIN?

(*From a Correspondent.*)

About the latter end of 1857 two female children, one apparently about twelve and the other eight years of age, were found on Fraser's Island, at the mouth of the Brisbane, on the eastern coast of Australia. When found they were both *black*, but when washed they became white, except in parts which remained as irregular black patches, scattered about the skin. The black appeared to have been rubbed in, the white skin seemed natural, and the theory was that they had been ship-wrecked on the island, and so marked by natives. The younger turned out clever and industrious, the elder proved a complete idiot, and was sent to the Paramatta Lunatic Asylum. Mr. Rowling, now a distinguished student of King's College, was then Assistant Medical Officer of the Institution, and it occurred to him that the question whether the girl was of black or white origin might be determined by the odour which is peculiar to black races, whether African or Australian. He therefore encouraged this girl to dance until she was in a copious perspiration, when the characteristic perfume, which in Mr. Rimmel's catalogue would be styled "the bouquet de'Afrique," was very easily recognised by every one present. Some time after this the poor girl died, and Mr. Rowling preserved some of the skin. After coming to England he asked Professor Beale his opinion, who told him that the skin alone would decide whether the pigment was natural or rubbed in. The skin has recently arrived from Australia, and Professor Beale has determined by microscopical examination that the pigment is natural; showing Mr. Rowling to have been correct in his judgment founded on the African odour. This disappearance of pigment will not so much surprise any one who has seen much of the West Indian negroes especially the turtle fishers.—*Med. Times and Gazette, March 14th,* 1866.

Canada Medical Journal.

MONTREAL, JUNE, 1866.

No. 2. OTTAWA, July 20th, 1866.

The Commander-in-Chief is pleased to direct that henceforward all applications for the post of Surgeon or Assistant Surgeon in the Volunteer Militia shall be accompanied by an intimation that the applicant is ready to pass an examination of fitness before a regularly constituted Board of Medical Officers of the Regular Army. And no appointment to the post of Surgeon or Assistant Surgeon in the Volunteer Militia will be made without a certificate of qualification from such Board of Examination.

The above General Order appeared in the *Canada Cazette* of a recent date, and, as the representative of the profession in Canada, we enter our most earnest protest against it. For the Militia authorities to imagine, for a single moment, that those who hereafter apply for the post of Surgeon or Assistant-Surgeon, will submit to a professional examination before a board of medical officers of the regular army, is it to look for what we believe, will never come, or we very much mistake both the spirit and the temper of the Medical profession of this Province. It may be argued, that Medical men, although possessing qualifications from Universities and Colleges, are compelled to pass a second examination previous to being appointed Assistant-Surgeon in Her Majesty's regular service, and it may have been a desire to follow the example of the Imperial Government that has led our Minister of Militia to issue the above General Order. But the cases are so very opposite, as hardly to admit of comparison. In the case of the regular army, the applicant for the commission of Assistant-Surgeon, is invariably fresh from his *alma mater*, his knowledge all theoretical, and he presents himself before a Board composed of some of the first medical men of the United Kingdom. Should he be judged capable, he is sent to Netley Hospital, where he undergoes a training specially adapted to the service which he has just entered, and concerning which he obtained but little knowledge, while attending his ordinary University or College lectures. But, with the volunteer Medical officer, how different. As we glance over on the list of Surgeons and Assistant-Surgeons of the Volunteer Force of Canada, we find that most of them were men of position and experience, long before they accepted their commission. Had the above order been in force, when they got their appointment, it is folly to imagine that they would have submitted to an examination. And even the younger members of the Volunteer Medical force, with their qualifications attested to by the well-

known Medical faculties of the different Canadian Universities, would, we feel convinced, rebel against being compelled to undergo an examination before a Board of Medical officers of the regular army. We are proud of being connected with the Volunteer Medical service, but, had we to enter it again, under such a general order, we would absolutely refuse. Upon what are the Candidates to be examined? upon the general prinples and practice of the profession. If so, then, we say, and we certainly mean no disrespect to our brethren of the regular service, that the chances are, from the nature of things, that the candidate is equally well-posted as the examiner. To compel a private practitioner, soliciting a commission in the Volunteer service to undergo an examination before either Surgeons or Assistant-Surgeons of the regular service, is to stop all such applications, and leave the Volunteer service without a Medical staff, for we assure the Government, the profession will not submit to any such examination. If the examination is to be upon the nature of Military Hospital duties, and the nature of Military Returns, it is useless, for from experience on the frontier during the recent Fenian excitement, we assert, that any Medical man can get into the routine (of which, heaven knows there is too much), after twenty-four hours' experience. We are aware this Order has created much feeling among the Medical profession, and we beg of the Militia department to consider what they are doing. The other day, a practitioner from the country called upon us with reference to this matter; he said,—"they are organizing a battalion in my place, and they wish me to take the Surgeoncy, but, according to the recent Order, I would have to pass an examination. The idea of me, after thirty years' practice, going before a Board! I wont do it." Such is the tenor also of letters which have reached us. We feel, however, that it is the duty of the Government to adopt means to keep out of the Volunteer service, those not properly qualified, and those who may have adopted an illegitimate mode of practising their profession, thus shutting themselves out from being regular practioners in good standing, and given themselves right and title to the name of "*quack*." It is due to the members of the Volunteer service that means should be adopted to prevent the admission of such persons into the ranks. We would, therefore, suggest that two Boards be formed, one at Montreal, and one at Toronto, to be selected from the Surgeons of the Volunteer Corps of these cities, and that, to them should be submitted the names of applicants for Surgeons or Assistant-Surgeous, with their qualifications. If the qualifications are all that is to be desired, the candidate named, to be recommended for his commission. In conclusion, we can assure the Government, that the profession will never submit to the general order we have quoted, and the sooner it is rescinded the better.

CANADA

MEDICAL JOURNAL.

ORIGINAL COMMUNICATIONS.

Compound Dislocation of the Ankle treated by Cold Water. Reported by Drs. Whitcolm and Fuller.

Pare, butcher æ 24, temperate and of robust constitution, received a compound dislocation of the ankle, by a fall from a waggon on May 19th. The foot was turned inward, at a right angle with the leg, and through the wound on the outer side of the ankle, which was about 4½ inches in length, projected the astragalus and external maleolus. The foot was quite moveable; the internal maleolus could be easily felt, and all the ligaments of the joint appeared to be ruptured. Excision or amputation was advised, but the patient being unwilling to submit, it was determined, in consultation with Dr. Abbot of this place, to reduce the dislocation, which was easily effected after placing the patient under the influence of chloroform. A splint, secured by two straps, was applied to the inner side of the leg, with a pad against the foot, and the wound was brought together by stitches. Ordered a morphia powder, and the leg and foot to be covered with cloths dipped in cold water, and to be changed as often as they became warm; urine was drawn off by the catheter.

20th.—Rested well during the night, some pain in the joint this morning, which discharges a bloody serous fluid; the leg is warmer than the other; morphia every six hours, and water to be poured over the foot and leg in a continual stream.

Evening.—Pain increased, some fever; ordered pounded ice in a bag to be applied to the leg and shifted often from place to place, the ankle and foot to be kept cool by pouring on as much cold water as necessary, the surface of the body to be sponged with cool water, and a morphia powder every fourth hour.

21st.—Rested pretty well, much pain at intervals, some fever, and tongue slightly coated. Ordered iced water to be poured over the foot

and ankle. Morphia every third hour, and the fever to be kept in subjection by cold sponging every two or three hours if necessary, which the patient expresses as very grateful to his feelings, relieving the chills to which he is subject, and generally giving a short but refreshing sleep. Bowels opened by a saline.

22nd.—Did not rest well, much pain at times in the joint, fever increased, tongue dry and brown in the centre; discharge from the joint is small in quantity and composed of a bloody serum mixed with thick flocculent matter; morphia increased, surface of the body to be sponged very often so as to keep it as near as possible at the normal temperature.

23rd.—Slept well, but talked much in his sleep, tongue dry and brown, pulse 100, softer than yesterday, occasionally great pain in the joint, bowels opened by a saline purge.

24th.—Slept well, less fever, tongue cleaner, surface of the body only bathed three or four times during the last twenty four hours; patient complains of the water on the leg being too cold. Ordered it to be used without ice and the ice bag to be shifted more frequently.

25th.—Slept only a few minutes, great pain in the joint all night, pulse frequent, fever rather high, leg and foot look œdematous and gets warm very quickly if the water is not applied constantly in a full stream. The edges of the wound are inverted and hard, and portions of swollen ligament and fascia projecting from between the stitches, hang in white shreds, like meat that has been long in running water. The discharge from the joint is a thick white gelatinous matter somewhat resembling pus, in which small flakes are seen. There has been no throbbing pain felt in the joint. Iced water again to be applied to the foot and leg; opium freely administered. Cold sponging frequently to the body.

26th.—Less fever, a dull aching pain in the joint at times, much pain complained of in the dorsum of the foot, especially at the roots of the toes, also a sharp pain in the centre of the sole of the foot; wound covered with oiled silk, and a dose of castor oil ordered, to be followed by a seidlitz powder in the afternoon.

10 P.M.—Great pain in the joint, sometimes throbbing, pulse 120, weak. Hypodermic injection of $\frac{1}{3}$ gr morphia, which gave immediate relief.

27th.—Slept very well; feels better; pulse 100; less pain and heat in the leg and foot; discharge from the joint is thick and bloody, but no pus can be detected. Ordered water to be used without ice.

3 P.M.—Fever increased; pulse 120; patient shivers, though he says he does not feel cold; complains of shooting pains through the joint, from the inside to the outside of the ankle, generally followed by a dis-

charge from the wound. Ordered the water to be used at a temperature agreeable with the patient's feelings, but to keep the leg and foot cool by using a larger quantity; the surface of the body to be bathed with tepid water, followed by brisk frictions, until the fever and chills subside.

28th.—Slept well, but interrupted by dreaming; tongue is cleaner, and general symptoms better; heat in the leg and foot diminished; the water is used in less quantity, and little more than tepid; appetite is improving; discharge from the joint more copious, and thinner; the patient passed his urine to-day without the use of the catheter. Ordered a seidlitz powder morning and evening.

29th.—No pain complained of; water gradually diminished, and wet cloth substituted.

30th.—Leg and foot red and hot, and numerous red blisters forming; especially on the foot; those on the sole contain some blood; looks something like spots of acute purpura. Fever is abating; tongue is clean, and appetite good. Ordered the leg and foot to be kept wet by sponging, and evaporation promoted by a current of cool air by the use of a bellows or fan. Discharge from the joint is serum, tinged with blood (turbid); about half an inch of the edges of the wound in front, where it was most exposed to the water, is drying, and looks semi-transparent, like raw hide. Nitrate of silver applied to the projecting ligament.

June 5th.—Gradual improvement up to this time; some odor in the wound; discharge from the joint is a light serum, slightly tinged with blood; has complained of occasional pain in the joint; sometimes throbbing on the inner side of the ankle, where there is a swelling and obscure fluctuation; shooting pains have occurred two or three times a day, followed by a discharge from the joint. Ordered charcoal to be added to the poultice on the wound, and the swelling to be painted with tincture of iodine.

6th.—Swelling softer; fluctuation more perceptible; slight granulations appearing in the bottom of the wound. Ordered foot to be painted with tinct. iodine. Splint removed, and leg put on to the double inclined plain; the stitches were removed, and a liberal diet allowed.

9th.—Granulations rising higher in the wound; sloughs partly separated, removed; considerable discharge of pus from the wound, and reddish serous fluid from the joint; swelling on the inner side of the ankle soft; fluctuation distinct; a puncture, with an exploring needle, was followed by the discharge of about half an ounce of light-colored serum; the orifice made by the needle was sealed, and the swelling painted.

11th.—Sloughs all separated, with the exception of a small piece of

ligament, situated at the opening into the joint; granulations look weak. Ordered the poultice to be mixed with infusion of sumack.

13th.—Sloughs all separated, and no discharge from the joint; wound looks clean, the posterior part, for about an inch, covered with a pellicle of new skin; granulations, being high, were touched lightly with caustic, and lint, saturated with the red wash, applied to the wound. The abscess on the inner side of the ankle pointed; it was freely opened, and discharged a saneous pus; compresses were applied over the sides of the abscess; the foot was drawn to the outside by a long wide plaster, and the edges of the wound approximated.

14th.—Patient can move his toes, and is ordered to practice movement twice a day, if no irritation ensues.

18th.—The edges of the wound are approximated, by means of plasters, each day; it looks very healthy, and the joint is closed; no tenderness on the inner side of the ankle; compresses removed. The patient moves his toes back and forth about an inch; also, can move them inward and outward slightly. Ordered to practice all the natural movements of the joint.

July 8th.—The wound is entirely healed; all the natural movements of the joint have been steadily practiced, and frictions applied to the foot and leg. There is some œdema of the foot and leg, especially in the evening, after resting it on the floor, which the patient does often, in order to habituate it to the position. The patient goes about on crutches. Ordered a bandage to be applied to the foot and ankle, and to practice, while standing, to place the injured foot behind the other, and touch the heel to the floor.

CORRESPONDENCE.

To the Editors of the Canada Medical Journal:

Gentlemen,—If you think the following remarks deserving of an insertion in your periodical, they are at your service.

Among the many annoyances and disappointments to which the medical practitioner is subject, none are of more frequent occurrence than the treatment of cutaneous diseases; and amongst these Eczema, called by the laity Rifle, so common to infants in this country, stands pre-eminent. During many years I employed various modes of treatment, recommended in books, and met only with disappointment; until at last I adopted a mode of treatment of my own, since which,

instead of disappointment, I have generally had reason to feel satisfaction; and, therefore, wish to make the same known.

My mode of treatment consists in bathing the affected parts, three or four times a day, in a weak solution of the carbonate of soda. Another excellent external application is common wheaten flour, which can be substituted for the sodaic solution, whenever the latter shall have ceased to produce beneficial effects. I sometimes employ both simultaneously, using the solution during the day time and the flour at night. Soda is also to be administered internally. I dissolve two drachms of the carbonate in eight ounces of water, and of this solution I give from a teaspoonful to a tablespoonful, according to the age of the child, three or four times a day. After the child has taken this quantity, I substitute Fowler's solution of arsenic—half a drachm in four ounces of water; from a teaspoonful to a desertspoonful, according to the age of the child, twice a day only; and when this amount is consumed, I resume the sodaic solution; and so on, alternately, until the cure is complete, which generally happens in a few weeks. Some cases, however, do not yield to this treatment; this is especially the case where Eczema is complicated with some other affection; in such, other means must be employed. But my experience is decidedly against having recourse to continued cold applications or debilitating medicines, for, although the eruption can sometimes be made to disappear by such means, yet the internal organs are liable to suffer, especially the lungs.

In conclusion, I beg leave to solicit my medical brethren to make trial of my treatment; they will find few cases of uncomplicated Eczema that will not yield to it; and they will have the further satisfaction of knowing that it is a mode of treatment at once simple, and not likely to be productive of any bad consequences.

I am your humble servant, MEDICUS.

WHAT killed Dr. Hodgkin? Impure water. We wonder that travellers do not carry with them a little bottle of solution of permanganate of potass—a few drops of which would speedily purify any water. A friend of ours, who had just returned from India, tells us that he has derived the greatest benefit from its employment. At stations where the water was turbid, and tasted and smelt of decaying organic matter, he found the addition of a few drops of the solution of the permanganate made it in a few minutes as clear and sweet as spring water.—*Medical Times and Gazette.*

REVIEWS AND NOTICES OF BOOKS.

Asiatic Cholera, its origin and spread in Asia, Africa and Europe; introduction into America through Canada; remote and proximate causes; symptoms and pathology, and the various modes of treatment analyzed. By R. NELSON, M.D., Health Commissioner during the first two invasions, 1832, 1834, President of the Medical Board for the District of Montreal. New York: William A. Townsend, Publisher, 434 Broome Street, 1866. 8 vo. pp. 206.

Cholera: Facts and Conclusions as to its Nature, Prevention, and Treatment. By HENRY HARTSHORN, A. M., M. D., Member of the American Philosophical Society, Fellow of the College of Physicians of Philadelphia; Professor of Hygiene, Auxiliary Faculty, University of Pennsylvania, &c. Philadelphia: J. B. Lippincott, & Co., 1866, pamphlet p. 79.

We have received the above works; that of Dr. Nelson being a small volume of 206 pages, written in a very pleasing style, and sufficient to convince any person who does not bring to bear his own observations of this disease, of the highly contagious nature of cholera.

Dr. Nelson's views are of great weight, as he brings into the discussion a clear intellect, much research and critical observation, extending over all the epidemics of this disease since its first appearance on this continent. There is one announcement in this work which is at once novel and suggestive. It is where the author states "*cholera morbus* and cholera spasmodica or Asiatic cholera, are two distinct states of the body. The first is a disease, the second is not." If not disease then what is it; we leave the author to reply "it is a poison." We may here remark, the same view, though modified, seems to be entertained by Dr. George Johnson, and with a desire of eliminating this poison he recommends the employment of purgative doses of castor oil. Can we not find in the whole range of our extended pharmacopœia the means of decomposing this poison. It would be truly a serious error if in poisoning with bichloride of mercury we gave castor oil with a view of driving out the poisonous compound, to the exclusion of white of egg which so easily and effectually decomposes it and renders it innocuous. Why cannot we find an antidote to the cholera poison, *if poison it be?* At page 78 the author says:

"Reader! do not believe me, but learn for yourself, as I have done. The delusions created by education are delightful; so that few things

are more painful to the deluded than an attack upon, or a refutation of, their fond and long cherished errors.

" The practitioner who calls cholera a disease will carry into practice his habits of treating disease where none exists, and work up for his guidance the idea of an imaginary pathology and a physiology which cholera utterly refutes. Out of this error in a name the wildest notions of medication have been adopted, useless in all cases, injurious in nearly all, and horribly cruel to the patient in many, as shall fully appear in the chapter on *Treatment*."

A little farther on our author gives a sad but we fear truthful statement of " the remedies which have been used in cholera, asserted to have cured nearly every patient." It is passing strange that our author should have selected one of the many remedies, perhaps the least successful of those enumerated in his list,—we allude to opium—and press on his readers the necessity, nay more, almost the criminality of the practitioner who seems to follow his injunctions as regards this drug, with so much scepticism. Does he still adhere to the absurdity, the " delusions, created by education " which are so " delightful." In this list of remedies all are enumerated except, perhaps, the novel method of Mr. Gason, of plugging up the rectum with a folded towel. Our author states at page 169:

" The foregoing list of heterogeneous remedies is not the production of quacks, but was seriously published, strongly recommended by practitioners of eminence, and who, to say the least, ought to have known better than to publish their conceits, and ought now to blush at their errors."

And yet he publishes his own " conceit;" nor does he tell us now he blushes at his own error. As an historical record of this most singular malady we would recommend this work: it deserves a place in our libraries; it is a curiosity of medical literature.

Dr. Hartshorne has had some experience with cholera during the later epidemics of 1849, and upwards; without claiming novelty for his views he declares his purpose to be a desire to give the results of a careful examination of facts bearing on the subject of cholera, and if possible arrive at results having a direct practical application.

The author gives a succinct account of the steady advance of the epidemic visitation which commenced its march in 1817, from Jessora. Several interesting facts are mentioned, proving beyond doubt the spread of the epidemic in spite of military cordons, and other means to arrest its progress, although the strictest non-intercourse with infected districts was maintained—one or two of these instances we will mention.

The question of causation is treated in a spirit of honesty; no attempt

is made to force on the reader convictions unsupported by facts; the question of contagion, which cannot be considered definitely settled, as a cause of the spread of the epidemic is also gone into, the author giving his opinion against the belief in the spread of the disease alone through human intercourse.

"Whatever the amount of travel, cholera moves with extreme *slowness* against the wind. This is especially observable in India; where, as Orton has recorded, it takes sometimes three months to pass over the distance of a ten days' voyage, notwithstanding constant communication.

"When the epidemic first reached England, in 1831, after having been in Berlin and Hamburg, it appeared in Sunderland, October 26th. *It did not reach London* until February, 1832, notwithstanding constant communication between that city and the infected district.

"One of the Western Islands, beyond the coast of Scotland, on the other hand, was attacked by the disease, although the intercourse between it and the main land was so rare that the clergyman of the island continued to pray every week for King William the Fourth, for eighteen months after Queen Victoria had ascended the throne.

"In 1832 and 1848, the town of Annan, nearly equidistant from Carlisle and Dumfries, and right upon the main line of traffic between those towns, escaped cholera altogether, while it prevailed both at Dumfries and Carlisle."

The author also gives authenticated instances "where transportation by persons seems to have occurred," and a little further on gives the following as his own conclusions.

"All of these, together, would count, I suppose, since 1817, possibly fifty or a hundred individuals, who might be acknowledged to have taken cholera, in immediate sequence upon exposure to contact with the persons or clothing of cholera patients, in localities not at the time under the epidemic influence.

"Granted, then, that such was the case. They are, clearly, *exceptional* instances. If cholera was in any proper sense contagious, *could* the *instantiæ crucis* possibly be so few and hard to find or prove? No! But how do we account for these? On the principle of *fomites;* of occasional, very rare, carrying of the cause of cholera, the "germs" of it, in clothing, merchandise, or by the person of a human being; as one might carry skippers on a piece of cheese in his pocket, or a paper of flower-seeds in his carpet-bag.

"*Practically,* what is the difference between this and contagion? Much indeed! When the cause of the disease is a somatic (*bodily*) contagion; no prevention of it is available, except the total and remote *avoidance*

of those *persons* who have it, and of things which have been in contact with them. When the cause is an *extra*-somatic infection, depending for its production, multiplication, and transportation, on local and atmospheric conditions, not personal—then those conditions may be met preventively; and the very rare carrying power of *fomites* may be reduced to nullity, by sanitary precautions. Against contagion, we would have only quarantine; a most "lame and impotent" defence. Against infection, we have the amply sufficient measures of sanitary police and management.

"Contagion, as a theory, would explain only a minority of the facts concerning cholera, and is not required to explain them. Infection will explain all."

On the question of Prevention the author is determinately adverse to strict Quarantine enactments. He says:—

"*Quarantine* is now urged by some, and appears to be even contemplated by the Government as a part of its duty. Is it available? Will it do any good? I say, *no*. Theoretically, if the views advocated in the preceding pages are correct, it falls to the ground of course. But we have more than that to say against it. It *never has succeeded;* and *never can*. Let us look at the facts.

"I take the following from Dr. Brigham's work on cholera, published in 1832:

"In Russia, immense lines of troops were formed for arresting its progress; St. Petersburg was entirely surrounded by *cordons sanitaires;* but all these regulations, enforced by a powerful despotic government, were unable to prevent the approach and the spread of the cholera throughout the Russian Empire. The efforts of Austria were equally unavailing; for in a short time the disease passed her triple cordons and invaded the country from Poland. Prussia employed sixty thousand of her best troops to enforce her rigorous restrictions, and travellers bear testimony to their severity. And what (says the American Journal of Medical Sciences, May, 1832) have been the results? An immense expenditure of money, the suspension of commerce, a stop put to industry, multitudes deprived of the means of acquiring subsistence, and whole families plunged into misery and rendered favorable subjects for the disease; but *no stop to its extension;* on the contrary, its progress was rendered more fatal. As an instance of this, Breslaw may serve as an illustration and warning to other cities. A quarantine of twenty days, with difficulties almost insurmountable which it entailed, was established at the borders of the province, and maintained with a rigor which might serve as a model to other nations. But, in the midst of

this apparent security, a woman living in a damp part of the town was attacked by the cholera, and in a few days the disease spread. *The most minute researches on the part of the public authorities could not discover any communication between this woman and any stranger or goods suspected of being infected.*"

And a little further on he says:—

"But it will be said or asked, would you abolish *all* quarantine—abandon all *inspection of ships* whatever? No; I would not. But I would abandon altogether the whole *theory* of quarantine, as against cholera most particularly.

"Ships should be inspected on approaching ports, because they may have unsanitary conditions intensified in them, on a scale sufficiently large to be important. This is, or should be, a part of sanitary police. Nor should it (and here is a great point of difference) include *any* restriction of *persons*; at the most, longer than enough for cleansing of the body and of the clothing, and purification of merchandise, by fresh air, and possibly by some disinfecting process in certain cases.

"I insist that SANITARY POLICE includes the sum total of available measures for the prevention of cholera in any place."

The last chapter is on the various modes of treatment, and as might be expected, the author has his own specific which he believes to be infallible. This mixture is a compound of antispasmodics and stimulants, and is as follows:—

R Chloroform, Tinct Opii, Spt Camph, Spt Ammon Arom. aa ℥ iss, Ol Cinnom gtts viii Spt Vini gal. ℥ ii. Dissolve a tea-spoonful in a wine glassful of ice water, and give a desert-spoonful every five minutes. It appears to us, that it would be better to give the dose of the mixture, say eight or ten drops every five minutes; this is perhaps a good prescription, but we fear, not one whit better than other numerous receipts which abound in works on Cholera. The author speaks of the benefit of Houses of Refuge, and advises the removal of persons, (when attacked,) in crowded and unwholesome localties, to places of the above description; he also mentions the benefit derived from house to house visitation. We feel convinced that no stop will be put to the spread of Cholera in any locality, without the strictest sanitary precautions, both personal and in the habitations of the people. The sooner our city authorities enact stringent regulations against overcrowding buildings, and overcrowding of habitations, the better. The coming year may see us subjects of an epidemic which has visited other parts of the world, and from which we have so far been spared. The perusal of this brocheur will repay the reader; we can confidently recommend it, as containing much interesting and instructive matter.

PERISCOPIC DEPARTMENT.

Surgery.

GUN SHOT WOUND OF BRAIN.—THE BALL REMAINS IN THE BRAIN OF THE PATIENT.

By D. D. Saunders, M.D.

S. D., aet. 10 years, robust and healthy. Was wounded by a pistol shot, the ball being about the size of a buck shot, on the afternoon of Friday, 12th January, 1866.

When summoned to see the patient, on entering the room found him lying upon the bed on his back insensible, head thrown back, skin cool, respiration nearly natural, pulse feeble, small and slow—65 beats per minute, face pale, pupils contracted, and blood flowing slowly from a small opening just below the right superciliary ridge and just above the ball of the right eye; this opening having been made by a pistol ball shot from a distance of five or six paces. No cerebral substance was apparent at the opening, but on examination of the white hat that he wore at the time he was shot, found white cerebral matter on that portion of the brim which projected over the right eye. I probed the wound for a distance of four inches with a female catheter, the instrument passing, without force being used, through the opening in the orbital plate and dura mater made by the ball, and ranging backwards, downwards and gradually towards the left side of the head, producing the impression on my mind that the ball had passed to the back portion of the left hemisphere of the brain. There was partial paralysis of the right arm, leg, and side of the face, without any perceptible paralysis of the tongue. No evidence of the ball being elicited by a moderate effort with the probe, it was deemed prudent by Dr. Malone, who was present, and myself to push our investigation no further. While using the probe he vomited up the dinner he had eaten a few hours before, in a partially digested state, the vomiting was repeated several times during the first six hours after the receipt of the injury. Cold water dressings were applied to the wound and an active cathartic administered, which failing to act, his bowels were thoroughly moved with three drops of croton oil. Used the catheter every ten hours for two days, after which time he voided his urine naturally.

Complete insensibility lasted for twenty-four hours; it existed in a *moderate* degree for ten days. During first five days after the injury

the pulse ranged from 60 to 75 beats per minute, surface of skin cool, pupils slightly contracted, and respiration nearly normal. On the sixth day, evening of Jan. 18, the pulse ran up to 90 beats per minute, and after that time for several weeks raised from 90 to 135 beats per minute, increasing on the least exertion or excitement and diminishing with rest and quiet. After the sixth day the surface of the skin became warm, attended with thirst which was relieved with ice, little or no complaint of pain of any kind, up to this time. No nourishment was given him for the first three days after the receipt of the wound; from this time on to recovery, he seemed to relish what was given him. His diet consisted in the main of butter and sweet milk, soft boiled eggs, soup and beef tea.

About the 27th Jan., fifteen days after injury, his consciousness was sufficiently restored to recognize friends around him, and to be aware of his being away from home, some four miles distant, in the country, he having been shot while on a visit to his little cousins living in this city. The case progressed very well without anything particularly worthy of note until Monday, 5th Feb., when he had quite a severe rigor, lasting over an hour, followed by febrile reaction, nausea and thirst. The right eye, which had been uninjured commenced to inflame the same day and to swell, and was accompanied with pain of a lancinating character referable to the region of the right eye. The swelling around that eye continued to increase; on Monday, the 7th Feb., indistinct fluctuation being detected on careful palpitation above the ball of the eye, and under the seat of the opening made by the entrance of the ball, I introduced the point of bistoury and made an opening one fourth of an inch in extent downwards and outwards. About one ounce of thin pus was discharged, followed by a large quantity of serous fluid, which continued to flow, a few drops at a time, for ten days. Some of this fluid must have been from the cerebral meningies, another portion of it, I think, came from the lacrymal gland which was nicked in making my incision into the abscess.

Saturday, February 10th. Had another rigor which was slighter than the first, followed by increased febrile action; a few hours after, the wound discharged more freely of pus than it had done for two days previous. The pain complained of was referred to a point just over the left eye.

Sunday afternoon, Feb. 11th. Had another rigor, quite slight, referred pain to a point over left eye, followed by increased frequency of pulse and heat of skin. The pain complained of at the time these rigors would come on, was very acute and severe, so much so as to cause him to cry out. They were not persistent and were relieved by inhaling chloro-

form for a few minutes, until morphia could act, which generally gave rapid relief.

Feb, 15th. One and a half A. M., had another slight rigor with headache, followed by increased heat of skin and frequency of pulse.

Feb. 18th. Complained of headache, and threw up his food, which was quite acid, but apparently pretty well digested.

Feb. 20th. Has had no other rigors, pulse range from 86 to 120 beats per minute.

Diet is chiefly butter and sweet milk, toast, soft boiled eggs, soup beef tea, boiled custard, egg nog, and chicken ; appetite pretty good.

Feb. 21st, three P. M. Complained of headache, pulse ran up to 120 beats per minute.

Feb. 22d. Comparatively comfortable, pulse 108 per minute, appetite good ; continued diet and three grains of quinine every six hours.

Feb. 23d. Appetite good, free from pain, pulse 98, bowels moved naturally. The eye looks much improved, swelling nearly subsided, discharge has ceased and wound closed.

24th. Complains of slight pain over left eye, pulse 98, skin pleasant, appetite good. A few inspirations of chloroform relieved all headache.

25th. Seems a little languid ; at 12 M. last night bowels moved naturally, right eye still improving, swelling has subsided so that the eye appears about natural in size. The pupil has been irregular in shape for a few days, without any appearance of discoloration ; it is deemed prudent, however, to keep it dilated with a solution of atropium, as iritis is apprehended. The case progressed naturally until March 2d, when it became evident from the dusky appearance of the iris of the right side that iritis was springing up, and also that the cornea was becoming involved. Concluding that the pains from which the patient was suffering were the result of the ophthalmia, all treatment was directed to that organ. The keratitis culminated in ulceration about the centre of the cornea. The inflammation of the iris went on to suppuration, producing hypopyon, the anterior chamber being nearly filled with pus. The inflammatory process in this case was not of an active character, and as there was partial paralysis of that side with a want of perfect sensation, it was deemed imprudent to adopt depressing treatment. The pupil was kept constantly dilated, and a tonic constitutional treatment was resorted to, with nourishing diet, taking the precaution to exclude the light from the eye to a moderate degree ; one strong proof that the condition of the eye was due to a want of perfect nervous influence was the absence of photophobia. Under the tonic course of treatment and generous diet the eye and general condition of the patient gradually improved and the paralysis of the right side disappeared.

At this time, June 4th, lacking a few days of being six months from the receipt of the wound, the patient's general condition is good, paralysis nearly entirely disappeared, intellectual faculties perfect; he is running about amusing himself and taking as much interest in his sports as ever. The white speck upon the cornea, the result of the cicatrized ulcer, being in the axis, interfered somewhat with perfect vision. The lids of this eye are still easily inflamed, showing a disposition to the formation of styes, quite a number of which he has suffered from recently. An operation for artificial pupil, after the irritability of the lids passes off, may be necessary to secure more perfect vision. I look upon this case as virtually well, with the ball still remaining in the posterior portion of the left hemisphere of the cerebrum.

Remarks.—The features of interest in this case are the following: That a ball may penetrate the brain for a considerable distance and remain there without producing death. There can be no doubt of the ball having penetrated the brain, for there was cerebral matter found upon the brim of his hat, and the orbital plate was penetrated, with an opening large enough for a female catheter to pass readily through it and then to pass without resistance for four inches through the opening made in the dura mater into the substance of the brain. The strong evidence of the ball being in the left hemisphere and posterior, was that the paralysis was on the same side the ball entered, and he laid for several days with his head thrown back. The cerebellum could hardly have been injured, for there was no paralysis of the tongue, which would have existed. Again there was a considerable flow of the meningeal fluid for some days.

Mr. Guthrie has remarked that while injuries of the base of the brain are of all most fatal, the fatality of the injuries in the upper portion diminishes as you proceed backwards; that is to say, injuries of the anterior portions are the most fatal; injuries of the middle portions less so, and injuries of the posterior portion least of all. It is often wonderful to note the amount of brain substance which may be destroyed in some instances without producing death, and in others, what apparently slight lesions of that organ may result fatally. The first is strikingly illustrated by the case of Gage, occurring in the practice of Dr. Harlow, of Cavendish, Vt., in which a tamping iron three feet seven inches in length, one inch and a quarter in diameter at its largest end, and weighing thirteen pounds and a quarter was shot through his head. In 1860 this man was still alive and well.

During the last four years I have seen six cases live long enough to be brought back to general hospital from the field with balls still remaining in their brains, from the best evidence we could get. In one, the ball (a

large ball from a Belgian rifle, most probably) entered the right side of the head an inch anterior to and one and a half inches above the right ear. I introduced my finger into the wound and removed some clots of blood with loose spiculæ of bone. A considerable quantity of cerebral matter escaped from the opening, and there was hemiplegia of the right side, though the patient was partially conscious, so much so, as to ask for something to eat when hungry and for water when thirsty. This wound granulated nicely, and at the end of three months was nearly healed, the paralysis was greatly improved as well as the intellectual faculties, and there was apparent evidence of permanent recovery. Unfortunately, I lost sight of the patient about this time, when starting on the Kentucky campaign, and have never been able to hear from him since. In four of the remaining five cases, death took place with the first, four weeks after entering the hospital. The fifth case lived for six months, and then died suddenly from abscess of the brain. In this case the ball was in the centre of the abscess, which was situated about the middle of the left hemisphere of the cerebrum. The abscess contained about an ounce of purulent matter.

There are reports of many cases where great violence has been done the brain and yet recovery taken place, but I have not time or space to mention them. I would refer those feeling an interest in the investigation of this subject to South's Notes, to Chelius' Surgery, and to Eve's Surgical Cases. Trumbull reports a case where a piece of an iron spindle three inches long, remained in a child's brain for eight years before proving fatal, and Larrey mentions the successful extraction of a portion of the blade of a javelin from the brain of a man, after its sojourn there for fourteen years. All authorities are agreed that all foreign bodies should be removed from the brain when practicable, as they will be liable to prove fatal in a shorter or longer period, if permitted to remain. When, however, the effort to remove the foreign body requires much violence to be done to the substance of the brain, it is better to trust to Providence than to make the effort. I have never known of a case where the evidence of the ball penetrating the brain was positive, and still remaining, survive the injury more than eighteen months.—*The Medical and Surgical Monthly, Memphis, Tenn.*

CASTRATION.

Dr. Duka, of the Bengal Army, exhibited a specimen not strictly pathological, but of considerable interest, relating to a state of off-hand Asiatic Surgery as it exists even in our days in Bengal and probably

other parts of our Indian Empire. The specimen in question was the pubic region of an old eunuch, Edoo by name, aged nearly 60 years, who, as the chief of a gang of eunuchs in the districts of Patna and Monghyr, had the duty of enrolling fresh hands into his fraternity by "doing as he was done by," namely, emasculating such young boys of 6 to 8 years of age as he could obtain possession of, and for so doing he was brought to trial in 1860, and sentenced to a long term of imprisonment, during which time he died in the Monghyr gaol, in 1863, whilst Dr. Duka was in Medical charge of it. We were hitherto under the impression that all eunuchs, as in Turkey and Abyssinia, were deprived merely of their testes; this specimen, however, would show that in India a clean sweep is made of the whole scrotum, testes and the penis as well, leaving a longitudinal cicatrix, closely adhering to the bone, with the urethral orifice at the upper end of it. It is very rare indeed that Europeans in the East ever have the opportunity of seeing these "neuter" individuals of our race, except as attendants at Mahomedan courts; still rarer can our brethren in India obtain a chance of making a preparation like this, which it is presumed is unique of its kind. The specimen is now the property of the Museum of St. George's Hospital.—*Proceedings of Pathological Society, April* 3.

USE AND ABUSE OF POULTICES.

The *British Medical Journal* quotes some excellent remarks of Dr. Richardson, from his lectures delivered at the College of Physicians, on the use and abuse of poultices.

The application of moist heat in the form of poultices to suppurating parts, requires, he thinks, remodelling, in order that it may be placed on a true scientific basis. The common recommendation, "you must put on a poultice," is too often an easy way of doing something about which we were not quite sure, and concerning which it were too much trouble to think long. Mischief is very often done by a poultice, which might well be avoided.

When a part is disposed to suppurate, the first step in the series of changes is an increased flow of blood through the capillary surface, followed by obstruction, and thereupon by an excess of sensible heat derived from the friction that is set up. Then follows transudation of liquor sanguinis into the connective tissue, and its transformation, under the influence of heat, into what is called purulent fluid. When to the part in this state we apply moist heat, we quicken suppuration, mainly by upholding the temperature: at the same time we secure the transference of water from

the moist surface into the fluids of the inflamed part, by which tension of tissues is produced, and in the end yielding of tissue at the weakest point.

When the suppurating surface is circumscribed, the rapid induction of the process may be attended with little injury; but when the surface is large, and when the exuded fluid is thrown into loose structures where it can burrow readily, the practice cannot be good to the extent of the mischief. Hence in the treatment of carbuncle and plegmonous erysipelas, it cannot be sound practice in the early stage to apply moist heat. Experience as well as principle warrants this conclusisn. In cases of carbuncle especially, Dr. Richardson has of late avoided the application of moist heat in the early stages with good results.

But when in the course of local disease, suppuration is actively established and is naturally circumscribed; when the increased temperature of the part has fallen to or below the natural temperature—then the value of moist heat comes on with full force. Then the tension which is exerted determines the escape of fluid at the weakest point of the surrounding tissue, and when the fluid escapes, or is liberated by the knife, the escape for a long period is aided by the application of moist heat.

The continued application of moist heat for a long time after the escape of purulent fluid is again indifferent practice. It sustains discharge, it sets up unhealthy decomposition of fluids; it produces a thickened, soddened condition of skin, most favourable to the production of sinus; and it retards recovery. When a surface is freely open and suppurating, dry and not moist heat is the remedy. We are in want in these cases of a simple invention; we require something which we can apply as readily as a poultice, which shall keep up the temperature of the part, and at the same time take up moisture, and gently desicate, without injuring the tissues.

TREATMENT OF ANTHRAX.

Dr. Larghi, of Vercelli, describes the form of treatment which during the last twenty years he has pursued with great success in the treatment of anthrax. As soon as he is called to a case—and the sooner the better—he makes a free crucial incision, so as to reach the sound parts at the margin of the tumour, as well as through the depth of its substance, and then proceeds to freely apply the solid nitrate of silver, sticks of which he has ready mounted on an elastic catheter. Every portion of the incised parts, as well as any spontaneous opening that may have taken place, are thus thoroughly cauterized with the nitrate—which, in fact, is thoroughly dissolved, while when the tumour is very deep a

second cylinder is applied. A pultaceous semi-liquid mass results, and on this being removed any points whence blood issues are again cauterized. The edges of the wound are also carefully cauterized. The incisions and cauterizations are rapidly performed, and the pain caused is not durable, while a calm sleep soon supervenes. The tumefaction and pain of the anthrax rapidly subside, and the separation of the eschar is allowed to take place spontaneously, a week solution of nitrate of silver only being thrown into the cavity. Neither erysipelas nor purulent absorption ensues, the fever ceases, and the patient rapidly recovers.—*Annali Univ. di Med. and Brit. and For. Med.-Chir. Review.*

PHYMOSIS.

By John Hamilton, Surgeon to the Richmond Hospital, and to Swift's Hospital for Lunatics.

We often meet, particularly in hospital practice, with cases of acute inflammatory phymosis accompanied by chancre. In those who have the prepuce long, and who contract chancre on the inside of the prepuce, or at the corona, or the frænum, and the chancre inflames, even slightly, from dissipation or other cause, the inflammation extending to the prepuce, effusion of serum and lymph rapidly and readily take place into the loose cellular tissue of the part. The prepuce becomes elongated and inelastic, and phymosis is the result, varying according to the degree of the inflammation. We should not be too hasty to operate in these cases, as both the cause and effect may be removed in many instances by proper treatment. In the young man (Case No. 3) admitted into No. 8 ward, January last, the case was of this kind, phymosis, not of great size, nor very acutely inflamed. He had had chancres for a fortnight, and had been able to draw back the foreskin; but could not do so for the last two days. There was profuse yellow discharge from under the foreskin, and when it was drawn a little back the edge of a chancre could be seen at the orifice of the urethra. Chancres could be felt over the situation of the frænum, through the phymosed foreskin; they were indurated. Mercury to slight salivation, and injection of water and black-wash completely removed the phymosis and cured the chancres, and this treatment will usually succeed. I recollect, some years since, seeing a case of acute inflammatory phymosis with Dr. Gorman of Henry-street. The penis was swelled; the prepuce elongated and curled at the end and œdematous, but not very red. It was painful and very tender. A flat induration could be felt through the prepuce where the tenderness was the greatest, no doubt the seat of the chancre which he had contracted three weeks

before ; there was not much discharge ; by the use of the local means already described, and slight salivation, he was completely cured.

The following is a well-marked example :—

Patrick Ward, a healthy looking man, was admitted October 6, 1863, with inflammatory phymosis : the prepuce dull red, swollen, elongated, painful, and exquisitely tender, with profuse discharge of thin brownish purulent matter. The prepuce could scarcely be drawn back enough to expose the orifice of the urethra, from which there was no discharge. Through the prepuce at the out-side of the base on the right side a hardness could be felt, and the tenderness was so great that he could scarcely bear it to be examined. A chancre was diagnosed in this situation.

He was ordered five grains of grey powder three times a day, and to inject three or four times in the day cold water followed by black-wash. Under this treatment a gradual improvement took place ; but immediately his mouth became sore ; at the end of a week a most marked change for the better ensued : the redness and swelling nearly disappeared, and the discharge which, though changed to healthy yellow pus, had hitherto been profuse, became gradually diminished. Omit the pills, but continue injections. He left the hospital at the end of the fourth week. For a few days before leaving he could draw back the foreskin entirely so as to show the ulcers. There were five or six of small size in the granular stage and just healed. One of the largest was at the right side of the corona glandis, and was the one which had been felt, in the beginning, through the prepuce. I touched them freely with the solid nitrate of silver and told him to take one of the pills at bed time for another week.

I could multiply such cases, but enough has been said to prove that we should not be too hasty to operate, as rest in bed, purgatives when required, the use of injections of water, followed by those of black-wash, or solutions of sulphate of zinc, putting a probe armed with lint and wet with a strong solution of nitrate of silver under the prepuce at the site of chancre, and applying it decidedly to it ; but, above all, the use of mercury to slight salivation, will prevent the necessity of operation, by curing the inflammation, and the cause on which it depends.

Where, however, the patient could not previously draw back the prepuce at all, or with much difficulty, before he got the chancre, it is better to operate even in these cases.

But if a case presents itself to you where the inflammatory symptoms are more intense, the penis greatly swelled, the swelling of columnar or pyriform shape, the lesser end at the pubes, the larger below, of a deep dull red colour, rather firm to the feel, exquisitely tender, so that the patient, not only cannot bear the slightest examination, but hollows his body in to

avoid the contact of the clothes; and where, when he attempts to draw back the foreskin, there is a gush, first of yellow, then of thin oily-looking fœtid discharge which discharge is profuse, saturating the dressings which are around the penis; where the pain is great, the fever high, quick pulse, hot skin, loaded yellowish tongue, with red tip and edges, and sleepless nights—you have to deal with a phagedenic sore, the cause of the phymosis, and hidden by it, the sooner you perform the operation the better. You give exit to pus and sloughs, expose the chancre, and are enabled to use the proper local applications. Should you delay, Nature will anticipate you by more or less sloughing of the prepuce, or by perforation of it. The operation in such a case is most simple; you introduce a director under the prepuce, and passing a sharp bistoury along it, slit up the prepuce down to the corona. The same may be accomplished without the director, by blunting the sharp end of the bistoury with a small ball of wax, which probed instrument is passed flat between the prepuce and glans, to the lowest point; it is then turned with the edge of the bistoury towards the prepuce, which is rapidly divided by pushing the sharp end through the ball of wax and prepuce. Petit was the inventor of the latter method. Some prefer dividing the prepuce along the centre of the dorsum; others, thinking that a pendulous flap is left by this operation prefer the one recommended by Celsus, of dividing the foreskin below by the side of the frænum. Where you have the choice, the latter is preferable. As the parts are consolidated by the effusion of lymph, the skin, after the division, does not retract from the lining membrane, as when the case is one of non-inflammatory phymosis, but the surface bleeds very freely. At each side at the angles of the cut corona, and at the end of the prepuce, small arteries can be seen to furnish a rapid flow of blood. Usually this can be restrained by small compress of lint, and when not, a needle armed with a ligature should be passed through at the bleeding vessel and tied over it. The surface of the incisions looks pale and œdematous at first, and as the inflamed prepuce is rigid, it cannot always be retracted sufficiently, immediately after the operation, to expose the sore entirely. It is, however, not absolutely necessary, as the bleeding and the free escape of sloughs, if there are any, or of the confined matter which there is almost always in the sulcus of the corona, give great ease, and much benefit the chancre.

On the third day the cut surface will be covered with a greenish exudation, and when this is thrown off it granulates and heals pretty quickly, unless it has become innoculated with the syphilitic virus, and becomes chancerous. This, I am happy to say, is rare. A bread-and-water poultice for a day or two is most useful, afterwards water dressing with lint is

more convenient. Sometimes the mere operation of dividing the prepuce by letting out the pent-up sloughs and matter, removing constriction, and also, probably, by the local bleeding, arrests the phagedenic action, and the sore afterwards rapidly improves and yields readily to treatment. A man of the name of Tyrrell, 19 years of age, and a teetotaller, was admitted into No. 1 ward, some years ago, with acute phymosis of a deep red colour, œdematous, very tender, and with oily shreddy discharge from a phagedenic chancre within; he suffered great pain. There was a chain of slightly enlarged glands in both groins, but no indication of bubo. A fortnight before he had connexion, four or five days after he perceived a chancre; the phymosis came on almost immediately after. The prepuce was divided by the side of the frænum; the bleeding not profuse and stopped by lint; no ligature; the edges of the wound did not separate, being matted together by lymph.

The next day at the inside of the prepuce on each side, extensive phagedenic ulceration, was observed, the incision having gone through the middle of the ulcer. He was put on calomel and opium. On the 4th day the phagedenic action was stopped. On the sixth day the mouth was sore; the chancre remarkably improved, and afterwards the process of healing was most rapid. The only local application was black-wash.

In these cases of phymosis with phagedena you should ascertain, and usually it is not difficult, the situation of the chancre. You will find at one part of the prepuce greater induration and greater tenderness; the patient also will tell you that this was where he first perceived the disease. When the case has existed some days without treatment, and its progress is very acute, a dusky spot, the indication of mortification, will lead you to where perforation is at hand. The plate, from the Museum of the Richmond Hospital, shows this well, as also the remarkable elongation and distortion of the penis in severe cases.

Allow me to mention a case in point of the care with which you should seek for the seat of the chancre. A man was admitted in to No. 1 ward with inflammatory phymosis and phagedena. There was evidently no time to be lost, the symptoms ran so high. I therefore slit up the prepuce by the inferior incision by the side of frænum. Next day a dusky spot appeared at the upper surface of the prepuce near the corona. I knew if I left this a perforation would take place, to anticipate which, I slit up the prepuce along its upper surface through the dusky spot, which was exactly over a phagedenic chancre. Finding, however, after this operation that there were ugly pendulous flaps on each side, I cut them off, and thus, as it were, in three operations, performed circumcision. No doubt if I had been less in a hurry, and taken time to ascertain the seat

of the chancre, and made my incision through the upper surface of the prepuce, the one operation would have sufficed.

Dislocation of the Humerus on the Dorsum of the Scapula.—An instance of this rare form of dislocation is recorded by Dr. John Hamilton. On March 23rd, he was asked to visit a gentleman at Rathgar, who had had a fall from his horse. He found a strong muscular man, about 38 years of age, lying on his back in bed, supporting the left forearm with his right hand. A glance at the left shoulder led to the conclusion, that the shoulder was dislocated, but the deformity was not that of the dislocation downward into the axilla, or that forward under the clavicle. The acromion appeared prominent, with a flatness below it, as in those dislocations; but this was only in front, it was full behind, constituting a prominence. The elbow, too, was close to the side, and the axis of the humerus went upwards and outwards, external to the situation of the glenoid cavity. The anterior wall of the axilla formed by the great pectoral muscle, looked flaccid, and felt quite soft and relaxed, and the fingers could be readily passed under the acromion into the vacant space left by the departure of the head of the humerus from the glenoid cavity. The most convincing proof, however, of the nature of the dislocation was the head of the humerus forming a round tumour on the back of the scapula below the spine. Its shape could readily be felt, and the motions of circumduction or rotation given to the arm perceived to be communicated to it. The reduction was easy. As the patient lay on his back, Dr. Hamilton seized the wrist, and with his heel in the axilla, drew steadily downwards and outwards and then inwards towards the centre line of the body. The head of the bone slipped into its socket with an audible snap in less than a minute. The heel was placed in the axilla in this case, not as in the dislocation downwards, to be a fulcrum on which the humerus acts as a lever, or to push the head of the humerus towards the glenoid cavity, but simply as a counter-extending force. (*Medical Press and Circular*, March 11th.)

Medicine.

CASE OF GASTRIC ULCER TREATED BY HYPODERMIC INJECTION—RECOVERY.

By George Willis, M. D.

Seeing in one of the Medical papers that a committee is formed in London to investigate the uses of hypodermic injections, and also meeting

by accident last week on the West Midland Railway an engine-driver who, I think, may be safely said to owe his life to this means of treatment, I am induced to give my notes of the case and the result.

Six years ago C. L., then aged 50, stated to me he had suffered all his life at times from dyspepsia, which was always relieved by a little suitable treatment; that he had never been confined to his bed until January 7 of that year for a single day. On that day he was seized with terrible pain in the stomach and vomiting, which state of things lasted for three months, and kept him in bed.

In the March following he had a hæmorrhage from the stomach of about two quarts, and for fourteen days after this he was treated by beef-tea and wine injections. On April 23, I first saw the case, which I at once recognized as one of gastric ulcer. So great was the irritability of the stomach at that time, and so acute the agony, that not even milk and lime water in the smallest quantities could be borne or retained. I tried large doses of opium, creosote, bismuth, glycerine, kino, etc.—all were rejected almost as soon as swallowed.

In this state he was seen in consultation by Dr. William Willis (late of the Middlesex Hospital, but now in Japan), and it was decided to use morphia hypodermically, to soothe his transit from this world rather than in the hope of cure. He had beef-tea injections, with eggs and brandy; the morphia injection eased his pain and induced sleep.

A trial was now made at the end of a week of a little milk, and it was found that a cupful would keep down and not cause very great pain if preceded by the morphia injection, which was of a strength equivalent to three grains of the salt.

This treatment was continued daily for above a year, and the diet was bread, milk, gruel, and occasionally a little fish. At the end of a year the man left his bed and came daily to our Dispensary for his treatment, which was now reduced to two grains; so cadaverous was his aspect, that people turned round in the street to look at the almost corpse-like man feebly moving along. He used to say, in his Staffordshire accent, when holding out his skinny fore-arm for the injection, "I am like a babby wanting his mammy."

At this time he began the use of beef-tea and mutton-broth, but the pain and vomiting invariably returned if by any chance the injection was unduly delayed. For another year he gradually improved in health—his digestion became better. At the end of this year the daily hypodermic injection was only the equivalent of one grain morphia, and six months later he was able to do without it altogether, but took especial care in his diet. He had so far recovered in strength, looks, and flesh, that a

few months afterwards he got employment at his old work, and reported of himself the other day that he had enjoyed perfect health for more than three years; that he could eat any sort of food and in full quantities; usually ate beef twice a day, and took two or three pints of beer. He has grown very ruddy and stout, weighing nearly twelve stones, though when he left his bed he hardly weighed eight.

The only medicine taken by the mouth during his illness was a dose of salts and magnesia once a week, for without this his bowels never acted. On a few occasions an injection of atropine was substituted for the morphia in a moderately large dose, and then it never relieved pain. On one occasion the fourth of a grain produced very alarming symptoms, and was never repeated. During twenty years I never saw a more satisfactory case or one that brought more credit to treatment, and I only hope that such a valuable mitigation of suffering may never fall into disuse. I may add that it is now the only solace of a man dying of cancer of the rectum, and he requires six grains of morphia daily.—*Medical Times and Gazette.*

RULES FOR THE TREATMENT OF EPIDEMIC DIARRHŒA AND CHOLERA.

By George Johnson, M.D., F.R.C.P., Physician to King's College Hospital; Professor of Medicine in King's College, &c.

The following directions for the treatment of diarrhœa and cholera are given in compliance with the wish, which has frequently been expressed, that I would set forth somewhat more in detail than I have hitherto done what, in my opinion, it is right to do, and what to avoid doing, in the treatment of these diseases. In giving these directions, I shall carefully endeavour to act upon the golden rule which should always guide us in the treatment of disease—*Ne quid nimis.*

Diarrhœa during an epidemic season is in many, but not in all instances, an early stage or a mild form of cholera; and in the great majority of cases of actual cholera, an attack of bilious diarrhœa marks the onset of the disease. A diarrhœa, when it is not the actual beginning of cholera, will weaken the patient, and so may predispose him to suffer from the more serious form of disease. *Diarrhœa, therefore, ought not to be neglected even for an hour.* That plan of treatment for diarrhœa is obvil ously the best which most speedily and completely puts a stop to the disease, without subsequent ill effects.

It may be stated as a general proposition, that the immediate cause of diarrhœa or looseness of the bowels is the presence of offending materials in the alimentary canal. These offending materials are of various

kinds in different classes of cases. In one case, unwholesome and undigested food is the exciting cause of the purging; in another case, a large and unnatural accumulation of the fæculent contents of the bowel; while in another class of cases, offending materials are poured from the the blood into the bowel, in consequence of the action of a morbid poison upon some of the ingredients of the blood. To this last class of cases belongs what is called *choleraic diarrhœa.*

The most rational theory of choleraic diarrhœa is, that a morbid poison enters the blood, either with the air through the lungs, or with the food and drink through the alimentary canal; and that this poison excites certain changes in the blood, in consequence of which some blood materials are spoiled, and thus rendered not only useless, but noxious. These morbidly changed blood-materials are then discharged from the blood-vessels through the mucous membrane of the stomach and bowels, and are ultimately ejected by vomiting and purging.

Various as are the remote and primary causes of diarrhœa, this one condition is common to all classes of cases; viz., that the contents of the bowel are unnatural and offensive. These offending materials are the immediate cause of the purging; and they must be expelled from the bowel before the diarrhœa can come to an end.*

From the above considerations we deduce one important and guiding rule of treatment, which is this—*not to attempt by opiates, or by other directly repressive means, to arrest a diarrhœa while there is reason to believe that the bowel contains a considerable amount of morbid and offensive materials.* It is certain that these offending materials must be cast out from the bowel before the diarrhœa can permanently cease. The effect of an opiate at this stage is to prolong the disease, and to increase the risk of mischief from the retention and reabsorption of the morbid contents of the bowel. If the opiate have the effect of retaining within the blood-vessels some of the morbidly changed blood-constituents, this astringent action will probably be more injurious and even deadly than the retention of morbid secretions within the bowel.

The purging is the natural way of getting rid of the irritant cause. We may *favor* the recovery by directing the patient to drink copiously any simple diluent liquid—water cold or tepid, toast-water, barley-water, or weak tea; and we may often *accelerate* the recovery by sweeping out the alimentary canal by some safe purgative, and then, if necessary, soothing it by an opiate. Castor-oil, notwithstanding its unpleasant taste, is, on the whole, the safest and the best purgative for this purpose. It has the advantage of being very mild and unirritating, yet withal very quick in its action. A tablespoonful of the oil may be taken, floating on

cold water or any other simple liquid which may be preferred by the patient. A mixture of orange-juice or of lemon-juice with water forms an agreeable vehicle for the oil. If the dose be vomited, it should be repeated immediately; and the patient should lie still, and take no more liquid for half an hour, by which time the oil will have passed from the stomach into the bowels. Within an hour or two, the oil will nsually have acted freely. Then a tablespoonful of brandy may be taken in some thin arrowroot or gruel; and, if there be much feeling of irritation, with a sense of sinking, from five to ten drops of laudanum may be given in cold water. These means will suffice for the speedy cure of most cases of choleraic diarrhœa. If the patient have an insuperable objection to castor-oil, or if the oil cannot be retained on the stomach, ten or fifteen grains of powdered rhubarb, or a tablespoonful of the tincture of rhubarb, or a teaspoonful of Gregory's powder, may be substituted for the oil.

If the diarrhœa have continued for some hours, the stools having been copious and liquid; if there be no griping pain in the bowels, no feeling or appearance of distension of the intestines; the abdomen being flaccid and empty, and the tongue clean—we may conclude that the morbid agent has already purged itself away. There will, therefore, be no need for the castor-oil or other laxative, and we may immediately give the brandy in arrowroot, and the laudanum, as before directed. The rule in all cases is, *not to give the opiate until the morbid poison and its products have for the most part escaped; not to close the door until "the enemy" has been expelled.* While there are some cases in which the evacuant dose is not required even at the commencement of the attack, there are many more in which the opiate is unnecessary in the later stage. In some cases of severe and prolonged diarrhœa, it may be necessary to repeat the oil and the laudanum alternately more than once, at intervals of three or four hours. Practical skill and tact are required to discriminate these cases.

If the diarrhœa be associated with vomiting, this should be encouraged and assisted by copious draughts of tepid water. The vomiting affords relief partly by the stimulus which it gives to the circulation, but mainly by the speedy ejection of morbid secretions.

Thirst may be allayed by drinking cold water, which may be acidulated by the addition of lemon-juice or a few drops of dilute sulphuric acid. *Care should be taken that the water for drinking is pure.* Organic impurities, such as result from the admixture of sewage, are especially to be dreaded. If the water be of doubtful purity, it should be carefully filtered through sand and charcoal, and then boiled. Impure water is a common exciting cause of cholera.

While the diarrhœa continues, the diet should consist mainly of rice or arrowroot, gruel or broth.

In all cases of severe diarrhœa, the patient should remain in bed.

If the purging continue, if the stools become colourless and watery (the purging being of the kind commonly called rice-water purging), and if the surface of the body become cold and blue, the disease is now passing, or has actually passed into the stage of collapse.

This state of choleraic collapse results from a peculiar arrest of the flow of blood through the lungs, occasioned by a morbid poison. It is not a condition of mere exhaustion. It is not relieved by the remedies for exhaustion; and it is made worse by opiates and by spirituous stimulants, which must, therefore, be avoided. The patient should be strictly kept in the recumbent position; he should be allowed to drink pure water freely, and should be abundantly supplied with fresh air. Hot flannels, or bottles, or bags of sand, should be applied to the feet and legs.

Cramps may be relieved by rubbing the affected parts with the warm hand.

Hot baths, whether of water or of air, have been found to be, on the whole, more distressing and exhausting than beneficial.

Five grains of sesquicarbonate of ammonia, or a teaspoonful of spirit of sal volatile, may be given in an ounce of camphor mixture every two or three hours as a diffusible stimulant.

The discharges from the bowels, and the condition of the abdomen, should be carefully observed. The discharges always continue, more or less, during the stage of collapse and until reaction has set in. One of the earliest and surest signs of reaction is the reappearance of bile in the vomited matters and in the stool. When vomiting and purging entirely cease during the stage of collapse, the disease is nearly always fatal.

One of the main objects of treatment during this stage is to facilitate the escape of the morbid secretions from the alimentary canal. This may be done partly by the copious use of diluent drinks, and partly by an occasional dose of castor-oil. If we carefully observe the condition of a patient in collapse, we shall often find that the intestines are more or less distended with liquid, and this, too, while perhaps there is general torpor and little or no effort at expulsion. Again, it has often been found that, although there has been copious watery purging during life the small intestines contain after death a large amount of a peculiar viscid dirty white material, having a very offensive odour. An occasional dose of castor-oil—a tablespoonful every three or four hours during the stage of collapse—may be useful in removing both these conditions; namely over-distention of the bowel by liquid, and accumulation and retention of offensive viscid semi-solid secretions.

The object and the effect of this treatment is not to increase the amount of liquid which is poured from the blood into the stomach and bowels, but simply to assist and to quicken the expulsion of the morbid secretions from the alimentary canal.

After reaction has occured, an occasional laxative dose is required—about once in the twenty-four hours during the first two or three days.

It is worse than useless to attempt to *feed* a patient during collapse. The secretions of the stomach are utterly deranged; and the power of digestion is suspended. The mildest nourishment administered at this time only adds to the feeling of oppression and general distress, from which the act of vomiting often gives immediate relief.

After reaction has occurred, and when the normal secretions are restored, the mildest nourishment should be given frequently, but in small quantities—such as milk, gruel, or rice, or arrow-root with a small quantity of brandy, soup or beef-tea or chicken-broth. After an attack of cholera, the stomach is sometimes long in recovering its tone and the power to digest solid food. When this is the case, a grain of quinine, with ten or fifteen drops of dilute hydrochloric or sulphuric acid and an equal quantity of chloric ether, may be taken with each meal. The same combination, too, often relieves that distressing sense of uneasiness, with flatulence in the stomach and bowels, experienced by many persons who are not otherwise ill during an epidemic of cholera.

Venesection has often afforded great relief during the stage of collapse. The symptom which appears especially to call for this remedy is rapid breathing, with a feeling of impending suffocation. When, with these symptoms, there is a cessation of vomiting and purging, which is probably a result of the almost entire arrest of the circulation through the lungs, I believe that venesection affords the only hope of saving life. It is difficult to obtain a stream of blood in these cases; not, as many suppose, because the blood is too thick to flow, but because, in consequence of the block in the lungs, the blood in the veins is nearly stagnant. The bleeding appears to be beneficial, partly by relaxing spasm and partly by lessening the distension of the right cavities of the heart, and so increasing their contractile power. Repeated doses of ammonia may help to quicken the circulation.

Consecutive Fever. Reaction from collapse is sometimes followed by a febrile condition—a hot skin, quick pulse, coated tongue, hurried breathing, often a scanty secretion or even a complete suppression of urine, with drowsiness tending to pass into coma. These unfavourable symptoms are more common when, during the earlier stages of the disease, opium and alcoholic stimulants have been freely given; but they may occur when no such means have been employed.

The best treatment consists in a scanty diet without alcohol, copious diluent drinks, with saline effervescing draughts, an occasional aperient, castor-oil, or sulphate of magnesia or a seidlitz powder; counter irritation over the lungs and kidneys, and sometimes local bleeding to relieve congestion of those organs.

In some cases, there is complaint of pain in the region of the stomach during convalescence. This may be relieved by the application of a few leeches over the seat of pain. If, after reaction, the stomach remain irritable, with frequent vomiting, iced water is an agreeable and efficacious remedy.

Preventive Measures. The choleraic discharges from the bowels should be looked on as highly poisonous, and they should be disinfected and got rid of as soon as possible. Every vessel and article of clothing or bedding soiled by the discharges should be carefully cleansed and disinfected. The attendants on the sick should be warned of the necessity for extreme personal cleanliness. The hands should be frequently cleansed with the aid of disinfectants, and always immediately before taking food.

The chief disinfectants are—chloride of lime, Burnett's liquid, Condy's liquid, and a solution of carbolic acid. The medical attendant should give directions for the use of these agents. Condy's fluid is well adapted for cleansing the mouth and hands before taking food; and carbolic acid for cleansing bedding and clothing, which would be damaged by mineral disinfectants.

Great moderation both in food and in drink is essential for safety during an epidemic of cholera. A single act of indiscretion has been followed by a severe attack. Intemperance at such a time is fraught with extreme danger.

Unwholesome articles of food, more especially tainted meat and fish and decayed vegetables, are to be carefully avoided. Ripe fruit and fresh vegetables may be taken in moderation with safety and advantage.

Especial attention should be paid to ensure the cleanliness and thorough ventilation of dwelling-houses. All vegetable and animal refuse should be removed as speedily as possible. Care should be taken to prevent the escape of sewer gases into the interior of dwellings.

The purity of the water employed for drinking and cooking should be most carefully provided for. A few drops of Condy's fluid may be used as a test for the purity of water. Organic impurities soon decolorise the fluid; which is not only a test, but also a purifying agent by oxidising the organic impurities.

No unnecessary medicines of any kind should be taken. When opening medicine is required, the mildest should be selected, such as castor-

oil or rhubarb. Saline purgatives, such as Glauber's salts and Epsom salts, are objectionable, on account of their tendency to cause profuse watery purging. The common belief that prolonged costiveness should not be interfered with during the prevalence of cholera is an error. An accumulation of offensive materials within the bowel may be itself a source of irritation and of danger. I repeat, however, that *no unnecessary medicine of any kind shonld be taken, and, as a rule, none without medical advice.—British Medical Journal, July* 21.

WHOOPING COUGH CURED BY HYPODERMIC INJECTIONS.

(Under the care of Dr. Biegel.)

Ann Wilson, three years old, began to cough at the beginning of January, 1866, the cough becoming more and more intense until it ended in severe whooping-cough. Admitted to hospital January 21. She is worse at night, and attacks are so frequent that she has little rest. Each attack ends in vomiting a quantity of slime. She is a well-built child, chest fully developed. On right side some râles, but nothing else abnormal on auscultation and percussion. Appetite fair; bowels rather costive; one-twelfth of a grain of acetate of morphia by subcutaneous injection. The mother had not left the consulting-room many minutes when she returned very much alarmed, because the child seemed "lifeless;" it was soundly sleeping. In the evening the mother's fears became more urgent, because the child did not wake, but she reported that it breathed easily. Advised to let it sleep without disturbance.

27th: Slept after last injection eight hours; cough, extremely light; about three times during the night; no vomiting after the cough; appetite much better- From this time the child recovered.

Out of five cases of ague successfully treated by the hypodermic method, we report the following:

Harriet Franklin, æt. 30, married, never before ill. In August, 1865, went with her husband to Haverston, and there was attacked with fever, called by the doctor in the town marsh fever. It had a tertian type and lasted three weeks, but yielded to the use of quinine. In the following September it returned, but was quartan; lasted two months, and was again stopped by quinine. The patient remained well up to January 14th, 1866, when the attack again seized her. Returns every day at noon, beginning with pain in the spinal column, followed by very intense shiverings which are succeeded by great heat, and this in turn by profuse perspiration. The fit occupied about two hours.

17th: Admitted out-patient, pale and ill-nourished; she is now in the

febrile paroxysm; respiration accelerated; pulse 128; spleen much enlarged; injected a quarter of a grain of acetate of morphia.

18th: Sick nearly the whole night; attack at noon as usual; injection repeated.

19th: Attack occurred at eleven o'clock to-day, but was much slighter; slept much better the previous nights. injection repeated.

21st: Attack recurred early in the morning, but was very slight; injection repeated. From this time there was no recurrence of the attacks. —*Medical Press and Circular.*

THERAPEUTIC NOTES.

Capsicum in Delirium Tremens.—Since our last notice of the employment of this simple and efficacious plan of treatment, some well-marked cases have occurred in Dr. Lyon's practice. In one instance the patient, a tavern-waiter, of chronically intemperate habits, was admitted to the Whitworth Hospital in the first stage of this morbid condition. The patient exhibited tremor in almost all the muscles of the body, chilliness, debility, sleeplessness, foul tongue, severe and general uneasiness, but there was a total absence of illusions, horrors, or delirium to any degree. He got a single dose of capsicum, twenty grains in a bolus, after which he slept and fully convalesced, the disease having been thus peremptorily cut short. Dr. Lyons remarks on the great importance of this early phase of the disease being recognized and promptly treated. The patient is in that condition in which he may be by but slight further indiscretion plunged suddenly into all the horrors and moral degradation of the state of fully developed delirium tremens, with all its consequent loss of character with others, and loss to the patient himself of that last barrier against utter abandonment, the sense of shame and remorse. For not alone does the first occurrence of delirium tremens brand the sufferer with the character of an all but irretrievable dipsomaniac, but the fact that he has passed this moral rubicon, in the vast majority of cases, deprives the patient of all stimulus to self-control, and under the demoralizing feeling that there is nothing further to be risked, his steps henceforward ever tend downwards and from bad lead on to worse.

As Dr. Lyons observes, a brief but variable period often precedes the fully developed attack of delirium tremens, especially in first cases, in which the patient presents anomalous symptoms unintelligible to himself, and not always read aright by his attendant. This stage is in some patients marked by the occurrence of tremor, sleeplessness, and general distress and anxiety, without a trace of delirium. In other instances

slight illusions prevail without tremor, from which the patient can by an effort arouse himself, and under strong self-directed exertion of the will even command his faculties for a time, and pursue avocations of business, to break down, it may be, hopelessly, a few hours subsequently, if his condition is neglected, misunderstood, or mistreated. Under these circumstances the treatment by capsicum comes in very opportunely, and by its employment we may, as in the case just cited, cut short the disease, and so save the patient from the consequences of his imprudence, and possibly restore him to a reformed life. Another case well illustrates the success of this drug when opium had completely failed to alleviate the symptoms, and seemed on the contrary in many respects to aggravate the patient's condition. The case was that of an individual who had taken six grains of opium within a period of two or three days without sleep being procured, or any relief to the illusions, tremor, and distress under which the patient laboured. After a twenty-grain dose of capsicum in bolus, profound and refreshing sleep for twelve hours was induced, and the patient awoke conscious and restored. In an almost precisely similar instance occurring about the same period, a thirty-grain dose of the drug had to be given a second time before full relief was procured. In one or two instances of individuals of confirmed and extremely intemperate habits it was found necessary to repeat the dose some three or four times.

As to the physiological action of the remedy, Dr. Lyon's explanation is that already given in a former communication—namely, that it produces a powerful stimulant and sedative influence by its direct action on the gastric filaments of the vagi. Slight uneasiness in the stomach has been complained of in one instance only after its use, and in two instances somewhat smart purgation was noticed, but without any evidence of intestinal or other irritation.

As at present employed, the drug is administered in bolus made up with honey of roses; but Dr. Lyons suggests the feasibility of its being conveyed to the stomach in the more agreeable form of a capsule.

As capsicum belongs to the great order of the Solanaceæ, Dr. Lyons suggests the possibility of its containing a narcotic principle hitherto undiscovered. He has referred this question for further elucidation to his distinguished friend, Mons. Gages, curator of the Museum of Irish Industry, a chemist of great eminence.

Christison observes, "Capsicum and cayenne pepper belong to the class of irritant poisons; and the latter preparation has been known to cause death. It is entirely destitute of narcotic properties, so far as is known at present. In both respects it constitutes a singular anomaly in the

natural order Solanaceæ, which are generally power of narcotics, but feebly or not at all acrid."

Pepper (Piperaceæ), probably black pepper, was not unknown to the ancients medicinally. Celsus, it may be mentioned, has a chapter headed: "Curatio horroris in febribus. Si nec balneum quidem profecit, ante accessiornem allium edat aut bibat calidan aquan cum pipere, siquidem ea quoque assumpta calorem movent qui horrorem non admittunt." Dioscorides also alludes distinctly to the use of pepper in curing the shiver of fever, and in later times Van Swieten and Louis Frank have employed it for a like purpose. Under the form of piperin the active principle of black pepper has been by many practitioners in the present century prescribed in the treatment of fevers, some vaunting its efficacy as not second to that of quinine.

Cholorate of Quinia.—This newly-discovered salt, which the profession owes to Dr. Lyons, continues to be employed in his Clinique and in his private practice, we are informed, with most satisfactory results. In cases of scarlatina, typhus, all low pyrexial states, local inflammations, &c., the use of this drug is indicated, and so far as opportunities have yet been afforded for testing its efficacy, the results are reported to be highly favourable. From its chemical constitution and the large amount of avaliable oxygen which is thrown into the system when this medicine is ordered, according to the formula recently furnished*, in solution with perchloric acid, valuable therapeutic effects may be anticipated *a priori*. The tonic alkaloid conveyed into the economy at the same time is a very important substitute for the potash in the ordinary salt hitherto employed (chlorate of potash). Dr. Lyons awaits an opportunity of testing the value of the chlorate of quinia in that malady in which, above all others, chlorate of potash has attained, according to Trousseau and Pidoux, its most important and indisputable triumph—namely, gangrenous stomatitis. Meanwhile he invites the co-operation of his professional brethren in testing the value of this hitherto unused salt.

Syrup of the Phosphates of Iron, Quinine, and Strychnia.—Dr. Lyons has for some time past employed with, he conceives, very important therapeutic results, this powerful tonic combination, for which the profession is mainly indebted to the late Dr. Easton of Glasgow, and Professor Aitken of the Royal Victoria Hospital, Netley.

The concentrated syrup of the phosphates, when made by double decomposition, according to Professor Aitken's formula, contains per drachm two grains of the phosphate of iron, one grain of the phosphate of quinine,

* See *Medical Press and Circular*, May 30, 1866.

and one thirty-second of a grain of the phosphate of strychnia. It is a perfectly clear and limpid fluid, slightly refracting light with the peculiar tint of the quinine solutions, and, viewed in mass, obliquely showing the bluish tint of the phosphate of iron held in solution. It is perfectly miscible with distilled water, has a strong styptic and distinctly chalybeate taste, and an after taste of quinine. It may be exhibited in doses of twenty to forty, and even sixty minims, diluted with water, according to age and the circumstances of the case. It is well borne in the majority of cases; it acts as an invigorating stomachic and sensibly improves appetite; it is an admirable general tonic; it appears to be a readily assimilable chalybeate, and is thus well adapted for certain chlorotic and anæmic states. In the morbid states of the nervous system which precede and accompany the development of the strumous diathesis, the influence of the strychnine salt appears to be exercised with great potency as a nervine tonic and stimulant, and it would seem to be an important agent in altering the morbid state of the nervous apparatus which presides over the function of nutrient assimilation. Physiologically, this influence may be supposed to be attributable to the well-known action of the strychnine salts on the spinal cord, as well as by direct stimulus to the filaments of the great sympathetic plexuses distributed to the stomach and intestines. From the general tonic and invigorating effect of this drug, its influence on the stomach and the promotion of appetite, as well as by the improved assimilation of food which it induces, it is a very valuable medicine in cases of strumous children threatened with scrofulous degeneration and ultimately with localized tubercular development. As a preparative to the use of cod-liver oil, and in certain cases as a concomitant to this food-substitute, the syrup of the three phosphates will be found a very important adjunct in the treatment of numerous forms of strumous disease.

But the employment of this admirable combination is not limited to the cases just mentioned. In depressed state of the system in the adult and aged, in several of the conditions tending to adipose degeneration of important organs, such as the heart and kidneys, the syrup of the phosphates will be found a serviceable and reliable remedy. Where it is desired to combine a tonic and styptic to aid in checking the drain of albumen from the system in chronic disease of the kidneys, this combination will be found of great use.

In many forms of cutaneous diseases where a tonic effect is desired, this combination will be employed with benefit.

For the use of strychnia in chorea and certain other of the maladies of children, the high authority of Trousseau and Pidoux may be cited. These distinguished authors give the following formula for the prepara-

tion of a syrup of strychnia. Five centigrammes of the sulphate of strychnia are dissolved in one hundred grammes of simple syrup. One hundred grammes contain about twenty-five *cuillerées a café* or teaspoonful; each teaspoonful or drachm contains two milligrammes or one twenty-fifth of a grain of the sulphate of strychnia. Dr. Lyons is of opinion that a superior efficacy will be found to attach to the triple combination above described. His best thanks are tendered to the Army Medical authorities in this city, by whose kindness Serjeant Moss of the Army Medical Stores, himself an experienced practical chemist, and who had learned the process under Dr. Aitken's supervision, has been allowed to prepare for him a specimen of the syrup of the phosphates of iron, quinine, and strychnia in exact accordance with Professor Aitken's directions.

REPORTS ON ORIGINAL RESEARCHES IN SCIENTIFIC PRACTICAL MEDICINE.

By Benj. W. Richardson, M.A., M.D., F.R.C.P., Senior Physician to the Royal Infirmary for Diseases of the Chest.

II.—On some new Compounds of Ether.
III.—Styptic or Hæmostatic Ether.

My researches on the production of local anæsthesia by means of ether spray have led me to invent a few new compounds of ether which cannot, I think, but prove useful in practice.

Hæmostatic Ethers.

In observing the influence of the cold produced by the dispersion of absolute ether during operations, nothing has struck me more than the effect of the cold in immediately stopping the flow of blood. For a time, cold alone, when carried to its fullest degree, prevents all venous and capillary hæmorrhage, and even the hæmorrhage from small arterial trunks. After a time, however, as reaction returns, and the vessels relax under the influence of heat derived from the renewed circulation, there is bleeding, which, if a wound be closed too quickly, is a cause of after trouble. The observation of the immediate effects of cold led me to think that if they could be supplemented by a styptic which would spray evenly with ether, and which would take up the constringing action when the vessels commenced to relax, an important desideratum in both Medical and Surgical practice would be supplied.

Xylo-Styptic Ether Spray.

With this object before me, I requested Mr. Robbins to make for me a solution consisting of absolute ether, having a boiling point of 92° Fah.

charged to saturation at a low temperature with tannin, and afterwards treated with xyloidine, a little short of saturation. The compound, made with much care, came out well. It ran easily through the spray tube without blocking ; it produced good local anæsthesia, and it possessed an agreeable odour.

In order to test to the extreme the effects of this preparation as a styptic, I took sheep's blood, removed all the fibrine previous to coagulation by whipping, and then let the blood remain exposed to the air for two days to ensure partial decomposition. In this way the blood was rendered nearly as fluid as port wine, and in the most unfavourable condition for being transformed into clot. A few drachms of this blood were now placed in a saucer, the saucer having been warmed to the temperature of the body. The spray of the styptic ether was then directed upon the blood from a full-sized spray tube, and in five seconds the whole mass of blood was so thoroughly solidified that the saucer could be turned upside down without any escape of fluid. The blood, which had previously presented the odour of putrefaction, was also deodorised, and remains quite inodorous at this date—ten days after the experiment. The blood sets in a firm leathery consistence, covered on its upper surface with a fine whitish layer, with a bright vermilion colour beneath.

These are the effects of the styptic ether on blood, the spontaneous coaguability of which has been lost, and I had the pleasure of showing these effects at the College of Physicians on Friday last during a lecture on heat and cold in the treatment of disease ; but these effects are trifling when compared with what takes place on blood newly drawn, and which contains fibrine. In this case the process of coagulation under the influence of the spray is the work, I had almost said, of a second.

When this spray is directed on an open bleeding living surface, the primary effects are those produced by the cold—namely, the condensation and whitening of the tissues. If blood be flowing, it solidifies, and when the parts relax, new blood that may ooze up enters the solid blood as though it were a sponge, quickly solidifying by coagulation and stopping further flow.

The applicability of this process for the arrest of hæmorrhage will occur to the mind of every practitioner. The substances used in the compound are innocuous, and the combined influence of the cold and the styptic are immediate, and so decisive that I can scarcely imagine any hæmorrhage they would not control. I have not had an opportunity of testing the point, but I have no doubt from the influenee of the styptic on the decomposing albumen of defibrinated blood that even in those cases of hæmorrhage where the blood is preternaturally fluid, the styptic

spray would arrest the hæmorrhage entirely. Where the blood contains fibrine in a natural condition, I cannot imagine a case in which the fluid would not prevent exudation.

The essential elements of this process are three in number :

1. The immediate constringent effects of cold on the blood vessels.

2. The chemical action of the solution on the fibrine and albumen of the blood.

3. The extreme mechanical fineness of distribution of the fluid on the bleeding surface.

The styptic ether can not only be applied to open wounds on the skin, but to hæmorrhage after the extraction of teeth, and, by means of a uterine tube, to hæmorrhage arising from cancerous disease of the uterus or other cause. It might also be applied to the rectum in cases of hæmorrhage from piles.

The apparatus required for this styptic ether is mechanically the same as for ordinary ether—that is to say, my spray tube with Dr. Clarke's hand bellows. The tube, however, requires to be made of different metal from that ordinarily in use for local anæsthesia ; and I have therefore instructed Messrs. Krohne and Sesemann to construct a special tube for the purpose.

Ferro-Styptic Ether.

I have tried other experiments with the persalts of iron, which are more or less soluble in ether, especially the perchloride, and these one and all produced, as a styptic ether, rapid coagulation of blood. Solutions of iron salts in ether are not, however, more effective than the ether I have already described ; and as they destroy the tube rapidly, act upon clothing injuriously, and do not so thoroughly deodorise, I do not think they are in the main so practical.

The styptic ether, containing xyloidine and tannin, will keep ready for use any length of time, as there is nothing in it to undergo decomposition ; and as very small quantities of it are required, it will become, I trust, of standard service to the Medical practitioner. It would be of great use also to surgeons on board ship, and particularly to army surgeons. In case of warfare it would be exceedingly useful on the battle field, as under the instruction of the surgeon it could be used by an orderly, so as to prevent hæmorrhage instantaneously in the case of flesh wounds. It would also form a useful addition to the Medical cabinet of travellers, who by necessity are removed from the direct succour afforded by Medical art.

A CASE OF RECOVERY FROM REFLEX PARALYSIS.

By Dr. Fraser, Senior Physician to the London Hospital.

The statement by Brown-Séquard, that the principal symptoms and affections of brain diseases may be caused by an irritation starting from any viscus, or any nerve of the skin, or mucous membranes, receives corroboration from the following case, supplied to me by the patient, Dr. Douglas, residing in West Maitland, Sydney. He has given his own case so graphically that if it were not for want of space the whole of the melancholy record would be read with interest. The heads will sufficiently explain the prominent points.

Having previously been in good health, he was, on January 22, 1864, attacked with dysentery, from which he recovered, and on February 28, having experienced during his illness great inconvenience from piles, he had a ligature placed on a pile. In his own words,—" I experienced intolerable pain, with indescribable sensation in the nates and rectum while sitting."

March 5.—Pile sloughed off. Experienced a sensation of numbness on left side of the body, and in the perineum.

6th.—Extensive ulceration round margin of anus; a fulness of left hip.

10th.—A sensation of fulness and general uneasiness of left hip and cheek; slight twitching and numbness of fingers and legs.

14th.—Speech slightly affected. Strychnine, in doses of $\frac{1}{24}$th part of a grain, ordered three times a day; but the characteristic spasms so soon followed that it was omitted. It was resumed on April 1, but again discontinued on the 5th, for the cause above named. Quinine and stimulants were now freely used.

On June 17 the symptoms had increased; there was oppressed breathing, restlessness, complete loss of sensation and motion in lower extremities. On July 10, quite helpless—cannot move either hands or feet. From this date a gradual improvement began, and on February 19, 1865, he was able to move about slowly, and now (November, 1865,) has completely recovered.

Irrespective of the illustration of the reflex theory of paralysis, this case presents an instance of the beneficial employment of stimulants and avoidance of depletion, thus giving a practical instance of a change of type in disease over this globe; for although the symptoms increased for some days after the use of quinine and stimulants, these aggravated symptoms could not be traced to the use of alcohol, as this remedy was uninterruptibly continued, and the successful result followed.

KREASOTE IN DIPTHERIA.

By. J. J. Knott, M.D., of Griffin, Georgia.

Owing to the speedy action and happy results following the use of Kreasote in Diptheria, coming under my observation, I am induced to give, in a short article, the manner in which it has been employed by me during the past three years, in military and civil practice.

In the year 1863, while in charge of the Small Pox Hospital for Longstreet's Corps, Army of Northern Va., diphtheria prevailed to such alarming extent, as a sequel of that loathsome disease, variola, and the mortality was so great in the cases under my care, that I was induced to look out for some more useful mode of treatment than had been used in its management previously. Regarding the disease, in the earlier periods, as local in its character, and of a septic tendency, I determined to test the virtues of this powerful antiseptic, local alternative, and styptic.

The first case in which I used it, was a very malignant one; so much so, that at one time I had almost despaired of his recovery. The following formula gives about the strength in which the remedy was applied to the parts affected:

℞ Kreasote ʒ ji.
Aqua Font. ℥ ji.
Pulv. Acacia QS.

A sponge saturated with the Kreasote thus suspended in mucilage, was applied to the parts where the pseudo membranous exudations were exhibited, early in the afternoon. In a few hours another application was made, and, without further treatment, all the more violent symptoms disappeared during the night. On the following morning my patient seemed so much relieved that further treatment with the remedy was unnecessary.

Continuing this application in the treatment of subsequent cases, I lost no more cases from this disease.

After my return to the 53rd Georgia Regiment, as Surgeon of that command, so successful was this mode of treating diphtheria, that it rarely, if ever, became necessary to send a case of the disease to the General Hospital, although several severe cases occurred in the regiment.

Since my return from the army, I have adopted this treatment in several cases of a decidedly diphtheritic character, in all of which much benefit was derived, and in one case particularly, which I distinctly re-

member to have been relieved almost entirely by one application, after suffering for a week under the ordinary treatment.

What has been said in this short article is intended, at least, to call attention to an important remedial agent in the treatment of a sometimes very troublesome and disagreeable disease.—*Atlanta Medical and Surgical Journal, April.*

Midwifery and Diseases of Women and Children.

MANAGEMENT OF "RETAINED PLACENTÆ" IN ABORTIONS.

By C. B. Suckling M. D., Senior Surgeon-Accoucheur Queen's Hospital, Birmingham.

M. J., aged 29, married; fifth child; six months advanced in pregnancy; has hitherto carried her fœtus to the full time of utero-gestation. She was taken with uterine pains early on Saturday morning, February 3, 1866, which continued on and off until I was summoned to see her on the following Monday at 10 a. m. I saw the patient at 10.30, and found she had had pain more or less intense during the previous three days. She had lost but very little blood. A vaginal examination, which is the only one to guide us to an accurate diagnosis in these cases, was at once made. It revealed the presence of the fœtus in the vagina, and a patent state of the external opening of the uteri. On removing the fœtus, the umbilical cord became detached from the placenta, three-fourths of it being left adherent to the fœtus, and the remaining fourth to the after-birth. This severance was afterwards found to be owing to a state of decomposition which had set in apparently at the time when the pains had been first felt by the patient. As the after-birth could not be felt, and as there was no flooding, after waiting a little time, I adopted my usual course—plugged, and left the patient, promising to return in the course of seven or eight hours; but I requested the attendant to send for me immediately, should anything occur of an alarming nature during my absence. When I visited the patient again at the expiration of eight hours, I found she had been pretty confortable, free from pain, and had been soothed by sleep. She told me she had suffered occasionally, from pains, but they were of short duration, and had given her but slight uneasiness. On removing the plug, the placenta came away with it, accompanied by a few coagula of blood. There was very little flooding. It may be as well here to remark that the plug I used consisted of shreds of linen—the only available substance at hand.

This case I record as one of very many to illustrate a practice I am

in the habit of pursuing in the treatment of cases of abortion in which the retention of the placenta is a source of trouble and anxiety to the accoucheur. Young Practitioners especially have the notion that, at all risks, the placenta should be removed before they leave the patient, and that she is in imminent jeopardy if it be permitted to remain longer than half-an-hour, or at the most three hours, and they are apt—too apt when nature does not assist them in this much-to-be-desired end—to summon to their assistance the ready resources of art so abundantly supplied them by those skilful and ingenious Obstetricians whose mechanical inventions for this purpose are most beautifully and cunningly contrived, and who quite ignore the maxim that " meddlesome midwifery is bad." There are many such instruments described in the various works on midwifery. The best of the kind, I think, is the " wire crochet" of Dr. Dewees. With this we could not do any harm if we used the commonest precaution. But I maintain that, in the majority of cases, the finger of an expert Practitioner and the *vis medicatrix naturæ* are more to be depended upon than any artificial appliance.

When the placenta can be felt over the os uteri the finger may be passed around it, and by a little skilful manœuvring it may readily be detached and extracted; but I would not advise any prolonged attempts to dislodge it, as by so doing the material parts may be much irritated and the patient's suffering greatly enhanced.

Plug and leave the case in the hands of nature. The kind of plug you should use is a matter of no very great moment so long as it is of a soft and yielding material, adapted to accommodate itself to the parts. In cases of emergency, where no time can with safety be wasted, you will be glad to avail yourselves of a good silk handkerchief, and this I have found to make an excellent tampon, answering every needful purpose. Cotton wool is, perhaps, preferable. Small pieces of sponge, about the size of a walnut, to which are attached pieces of string, are those more generally recommended. One great objection to them is, that when they become saturated with the fœtid discharge they become obnoxious to the patient, and are liable to promote the accession of febrile symptoms. To prevent this, they must not be kept too long in the vagina. Whatever plug we may employ, we should take care that the whole of the vagina be well filled, but not to such an extent as to cause by distension, pain—(I may remark here that in midwifery operations we should always endeavour to avoid causing pain to the mother)—but so as to prevent the discharge of blood from the uterus externally. Some may be haunted by the idea that although the plug is *in situ* that internal hæmorrhage may take place to an alarming extent, but I do not see how this can

occur to any great degree when we bear in mind that there is a small uterus, not large enough to admit the hand, partly occupied by the placental mass, and the os uteri blocked up by the artificial plug. In my own practice, when I adopted the treatment I am describing, I have seldom met with hæmorrhage that either caused me any anxiety or created much depression of the system of the mother. To recapitulate, I would recommend, in the treatment of cases of retained placenta in abortion, the following points to be observed :—1. If it be possible, remove the placenta by the finger ; the sooner this is effected the better, but do not rashly act, and do not let the attempt last too long, as you have nothing to fear by its retention. 2. Plug, and use that which you have readiest at hand, but the sponge plug, in my opinion, is the best. 3. Wait eight, ten, or twelve hours before you remove the plug, and you will generally find, on removing it, that the after-birth either comes away with it, or it is found lying in the vagina, from whence it may be easily withdrawn.—*Medical Times and Gazette, June* 16.

FORTY CASES OF ARTIFICIAL PREMATURE LABOUR.

Dr. Simon Thomas, of Leyden, relates forty cases in which labour was artificially induced. The indications were chiefly contractions of the pelvis ; and these were determined less by the histories of previous labours than by accurate measurements expressly made. Thus, in five cases, the patients were primiparæ. The first method employed was to place a bougie for a short time a few inches between the uterus and the membranes, changing it every day for a larger one. Labour only came on in ten days, and the forceps was used. In another case Kiwisch's douche was used. Labour followed in five days. The mother died of pyæmia. In other cases the bougie was used, or the douche ; generally days elapsed before labour. Afterwards Krause's method, the leaving an elastic catheter in the uterus, was used. The time expended was from six to ninety-two hours, the majority taking from twenty-four to forty-eight hours. Of the thirty-two children born after Krause's method twenty-five lived ; of the thirty-two mothers, twenty-five had a quite natural puerperal history ; four died of pyæmia or endometritis. (*Brit. and For. Med. Chr. Rev.*)

RETENTION OF CATAMENIA FROM OBSTRUCTION.

By F. C. Robinson, M. D., Chicago Medical Journal, June, 1866.

Miss W., aet, 15, menstruated for the first time, in August, 1864, and continued regular until November, when it ceased. Since that time she

had the menstrual molimen every four weeks, but without any discharge externally. Other means to restore it having been tried, resort was had, upon the diagnosis of "obstruction," to surgical interference. On examination the vagina was found closed by a firm elastic membrane, forming a cul-de-sac, point upwards, about an inch and a half from its orifice. I administered chloroform, and using a director and my index finger, ruptured the membrane, causing slight hemorrhage, but as yet no relief. Above this membrane the vagina was crossed by several fibrous bands, which I also divided, revealing a distended uterus. It was lower in the pelvis, and pressing upon the bladder, causing irritation and a frequent desire for micturition. The os uteri was also closed by a membrane similar to the one above mentioned, and which I succeeded in penetrating, using a female catheter, when about sixteen ounces of reddish brown, tenacious fluid or menses in a condensed form escaped. The pain ceased in a few hours, and except a slight nausea from the chloroform, the girl did well, and was soon able to resume her duties.

Materia Medica and Chemistry.

EXPERIMENTAL INVESTIGATIONS INTO THE ACTION OF THE BROMIDE OF POTASSIUM.

This is the title of a very interesting paper by Dr. Roberts Bartholow, in the November number of the *Cincinnati Lancet and Observer*. The author's investigations were conducted in three directions: 1st, the chemical properties; 2d, the physiological effects; and 3rd, the therapeutical uses of the salt.

The physiological effects of the article when taken into the stomach, Dr. B. sums up as follows:

"1. It proves irritant in large doses to the mucous membrane of the stomach.

"2. It is rapidly absorbed into the blood, and may be detected soon after in the urine.

"3. It acts upon the nervous centres, producing sedation, sleep, reduces the action of the heart and arteries, lowers the temperature, and diminishes the retrograde metamorphosis of tissue."

The prolonged administration of the bromide of potassium produces according to Dr. B. the following effects:

"1st. It diminishes and ultimately entirely neutralizes the sexual appetite.

"2d. It produces weakness of the muscular system.

" 3rd. It is irritant to the stomach if given in considerable doses; and

" 4th. It interferes with the secondary assimilation, lessening the retrograde metamorphosis of tissue."

In regard to its therapeutical uses Dr. B. extols it as a *disinfectant* and *deodorizer*, as an *escharotic* in sloughing and gangrenous ulcer, phagedenic chancres, hospital gangrene, epithelioma, etc.

" The actions of the bromide of potassium physiologically considered," Dr. B. states, " consist in a sedative or contra-stimulant effect upon the nervous centres, producing as secondary phenomena, sedation of the heart, anæmia of the brain, anaphrodisiac effects and diminution of the retrograde metaphorsis of tissue. It has come into use in various functional and organic nervous disorders, and in certain sexual diseases, where a calmative and sedative influence is desired."

This article Dr. B. considers to be indicated as a hypnotic in states of nervous excitement without congestion of the nervous centers; in hysterical insomnia; in delirium tremens; in the insomnia of excitable business men, or, in general terms, in those forms of insomnia dependent upon excitation without increased blood supply. Dr. B. has found it especially useful in irritable bladder, and the chordee of gleet. We have several times prescribed, ourselves, with benefit in these conditions.

For a careful survey of all the facts Dr. B. gives the following as the *methodus medendi* of the salt in question:

" 1st. The bromide of potassium acts by absorption into the blood.

" 2d. Its effects are expended upon the nervous centres, or the cerebro-spinal axis.

" 3rd. Sedation of the heart and circulation, and the various local sedative effects are secondary results of the impression made upon the nervous centres.

" 4th. Its physiological effects are not very decided, and are easily modified by any local disturbance.

" 5th. Its therapeutical action is still more decidedly influenced by local morbid processes.

" 6th. It is indicated where a sedative to the nervous system is required—in insomnia; too great reflex excitability; nervous and spasmodic affections of the larynx and bronchi-sexual excitement, and in an irritable state of the sexual organs.

" 7th. It will be effectual in the foregoing conditions, in proportion to the degree in which structural lesions are absent, or in other words, in proportion to the degree in which these morbid states are functional rather than organic."

The bromide, Dr. B. asserts, possesses none of the peculiar alterant

property of the iodide. Whilst this fact is true, it is undoubtedly the case that the bromide relieves congestion of certain organs, diminishes their bulk, or, as it may be styled, produces resolutions of an engorgement. Such action, apparently alterative or resolvent, is not really so. It has been exhibited mainly in certain states of the uterus and ovaries —states of hyperæmia dependent upon sexual excitement, or upon the monthly nisus. The apparent resolvent power is, in this case, due to the sedative impression of the remedy upon the sexual organs and upon the vaso-motor nerves.—*Am. Jour. of Medical Sciences.*

Miscellaneous.

Endermic Poisoning by Belladona.—The application of belladona to the breasts for the relief of painful distension of the organs, especially after sudden weaning, is often resorted to, and with advantage. Where there is an abrasion of the skin, however, this practice, it should be known, is not devoid of danger. A case of poisoning, under such circumstances, is recorded in the *Lancet*, of November 11, 1865.

The amount of castor oil manufactured yearly in the United States is estimated at 300,000 gallons—one half of which is made by Baker & Brothers of New York.

Pyæmia. In a discussion on Pyæmia, which took place at the New York Academy of Medicine, Dr. Krakowitzer recapitulates the essence of his remarks, as follows. 1. Pyæmia is not the result of the admixture of pus with the blood; 2. The metastic abscesses produced by emboli from venous thrombi are not pyæmia; 3. Pyæmia and septicæmia are different diseases; 4. Both occur frequently together in the same individual; 5. Pyæmia is an infectious specific disease; 6. The infectious substance is either produced in the diseased individual; or 7. By pyæmic miasma generated outside of the patient; 8. The name of pyæmia should be abandoned, and that of purulent diathesis substituted. (*Phil. Med. and Surg. Reporter.*)

Errata in our last.—Page 1 heading 3rd line from top for Surgions read Surgeons; page 2 line 13, for Ferguson read Fergusson; page 4 line 12 patilla in latual &c., read patilla, or in latual &c.—

Line 21, for anticulating read articulating; line 30, from the Chloroform as much vomiting and nausea existed; read from the Chloroform; as much vomiting and nausea existed, &c.

Page 6, line 24, is a very limited motion, read is very limited motion.

Page 8, line 20, advisible read advisable.

Canada Medical Journal.

MONTREAL, AUGUST, 1866.

THE MILITIA GENERAL ORDER.

Our readers will have perceived the remarks offered by us on the militia general order of July 20, having reference to the appointment of surgeons and assistant surgeons in the volunteer force of Canada. The point we would urge on the Government to rescind, is that objectionable clause requiring that "an examination of fitness" shall be passed before "a regularly constituted board of medical officers of the regular army."

In the case of combatant officers, we freely admit the necessity of submitting the candidate to examination before a board of officers of the regular service before placing him in a position of trust and responsibility; but in the case of medical officers, while yielding the point of rendering it necessary to submit all candidates to examination, we take exception to the constitution of the board of examiners.

There are already connected with the force men who have grown grey in the study and practice of their profession. Several hold offices of trust and responsibility in public hospitals and other charities, the duties of which they have performed for years with credit to themselves and advantage to the community. Moreover, they are men whose services, in the event of actual hostilities, could ill be dispensed with. Several have been engaged for years in public teaching, and are regarded by the community with confidence, as men of talent, learning, and research. Why our Government, acting under advice, should step aside to pass over these men without giving the circumstances that deliberation which their importance demands, seems to us passing strange. If the Government deem it necessary to insist on examinations of applicants for appointments as surgeons and assistant-surgeons in the volunteer force—and we see no objection to it—there is abundance of material in all our large cities out of which to form an examining board, without calling to their aid men, many of whom are comparatively fresh from the schools, surgeons but in name, and who have no opportunity of acquiring much practical experience, except, perhaps, in the daily routine of a regimental hospital. The examination may be said to be of a special character. The subjects of hygiene and statistical inquiry are specially exacted from candidates applying for appointment in the regular service; but how, let us ask, is the board constituted before whom this special examination is passed? Are they not appointed under royal commission, and the selections made from among the ranks of the first scientific talent in the country?

Our Minister of Militia is, we presume, acting under advice, but we would recommend him not to allow himself to be placed in a false position, to take no man's word without being himself certain that the premises are correct. We would be sorry to see him render himself simply ridiculous in the selection of a board of examiners for volunteer surgeons, especially after having deserved well of his country in having acted with prudence and foresight in other matters connected with the volunteer force. If it be thought necessary, we make no doubt that practitioners hailing from our Universities are quite equal to passing any examination before any board, however constituted. With reference to McGill University, we say it, not boastingly, but with pride, that those of our students who have presented for army medical appointments, received them, after having passed highly creditable examinations. This is the more noticeable, as these men had to compete with candidates hailing from all the universities and colleges in the kingdom.

We say, again, if an examination of fitness is to be the test, let the board be selected from among the first men in the ranks of our profession, and not from among those holding the same position as the candidate;—in some instances his inferior in the social scale,* as well as his inferior mentally, educationally, and in every other respect, except in not holding Her Majesty's commission as a non-combatant in Her Majesty's regular army. Since writing the above, a Medical Staff Officer has been appointed, and we feel certain, that that gentleman will do all in his power to organise the Medical department of the Militia on a basis as to command the respect and confidence of the public.

REFORMATORY FOR INEBRIATES.

We are happy to announce that Mr. and Mrs. Wakeham, the well-known managers of the private asylumn at Quebec, have, at the suggestion of their well wishers, determined to alter the objects of their home, and receive for isolation and cure those afflicted individuals, who, from long indulgence in the use of intoxicating beverages, have brought themselves to that state of mental disease whereby they are unable to combat with the temptation whenever offered. The disease, dipsomania, is well recognised at the present day, and many valuable lives are annually sacrificed by the neglect, on the part of society, of legislating on an evil which is alarmingly on the increase. In the absence of legislative enact-

* By this, we would intimate, that in some of the country districts, practitioners of old standing, and the first men in their district, may possibly be the only Surgeons available to Government as Surgeons of Batallions; and whose position is magnificently superior to those who are proposed by Government to constitute their Examining Board.

ment, an asylum with the above objects is much lessened in usefulness, as it is only those who voluntarily consent to enter its walls and remain there, who can be benefitted. Habitual drunkenness is an offence punishable by fine or imprisonment, but it is seldom that full justice is meeted out to the better class of individuals. It is a crime against our Maker, and one against which the most fearful penalty is denounced; but, regarding drunkenness as a social evil, we do think that society is bound, for its own safety, to enact stringent laws, whereby the drunkard can be restrained, and, we believe, ultimately cured of his disease. The most careful discrimination would have to be taken to protect the interests of individuals; but the necessity of restraint seems urgent, and in a pecuniary point of view, the saving to the country would, we feel convinced, be marked, as more than three-fourths of the crime, which call for attention at the hands of the officers of the courts, are the direct result of the excessive use of the bottle. We are happy to announce to the public that the enterprising proprietors of the Belmont Retreat at Quebec have been induced to make the trial of establishing an institution with the above object, which is calculated to be of so much permanent benefit, and we trust their efforts will be successful.

MEDICAL STAFF OFFICER OF MILITIA.

Our readers will have perceived the appointment by our Government, of Gilbert Prout Girdwood, M.D., M.R.C.S. England, to the post of Medical Staff Officer of Militia. This is an excellent appointment, and from what we know of the Doctor, we feel convinced he is the right man in the right place. Dr. Girdwood has for the last two years been engaged in the practice of his profession in our city. Before that period he had acquired a knowledge of the requirements of an army in the field while attached to the Grenadier Guards; he served in that regiment during a period of ten years. We have every confidence that, should the Militia of this Province be called into active service, a most efficient Medical Staff with full Hospital requirements will be at hand, so that our Volunteers will engage in their work with the satisfaction of knowing that in case of sickness, or the reception of wounds in actual engagement, every care and comfort that can be had by the Provincial authorities will be available. We are aware that in June last, owing to there being no officer specially appointed by the Government, several of the battalions went to the frontier without adequate appliances in their medical department, although we must state that the Inspector General, Dr. Muir, afforded all the assistance which lay in his power, in supplying volunteer Surgeons with paniers, instruments, and everything which was likely to be necessary. We regard this appointment as in every way a most judicious step.

CANADA

MEDICAL JOURNAL.

ORIGINAL COMMUNICATIONS.

Lectures on the Diseases of the Eye recently delivered before the Ophthalmic Class of the Toronto School of Medicine. By A. M. Rosebrugh, M.D.

(Continued from page 554.)

Lecture II. Glaucoma,* and Glaucomatous Diseases, and their Treatment by Iridectomy.

We are indebted to Prof. Alfred Von Graefe, of Berlin, not only for the modern theory of glaucoma, but also for presenting the means of curing this hitherto incurable disease. He discovered, by means of the ophthalmoscope, that peculiar condition of the optic nerve entrance called *excavation* or *cupping;* and also showed that in cases of glaucoma, there exists an arterial pulsation in the optic nerve. From his extensive clinical experience, he was soon able to prove that these ophthalmoscopic appearances, and all the other symptoms of glaucoma, are closely connected with the tension of the globe, which inwardly accompanies glaucomatous diseases. Recognizing the abnormal hardness of the eye as the essential element in the disease, he sought for means of permanent relief. He had tried in vain the usual remedies, such as mercurials, antiphlogistics, diuretics, diaphoretics, &c. He also tried tapping the anterior, chamber, methodically repeated, but with only temporary benefit.

* When the eye of an aged person becomes glaucomatous, there may often be seen in the advanced stage of the disease, a green reflection from the interior of the eye; this green reflection was formerly considered a pathognomonic symptom of glaucoma, the name *glaucoma* is from γλαυκὸς—sea-green.

Having found that iridectomy proved of great benefit in ulcerations and infiltrations of the cornea, by diminishing tension, he next had recourse to this operation for the relief of the excessive intra-ocular pressure in glaucoma.

In 1856, Von Graefe tried iridectomy for glaucoma, and with perfect success; he found that it not only relieved the tension of the globe permanently, but that, if performed in suitable cases, and sufficiently early, all the other symptoms were also permanently relieved.

Iridectomy is now recognized by most oculists of eminence, as the only *cure known* for glaucoma.

In bringing this subject before you, we will take it up in the following order:—I. Nature of Glaucoma; II. Varieties of Glaucoma; III. Treatment of Glaucoma.

I. NATURE OF GLAUCOMA.

According to Von Greafe, the characteristic symptoms of glaucoma all refer to *increase in the intra-ocular pressure.* These symptoms are:—1st. Hardness of the globe. 2nd. Impairment of the acuteness of vision, and contraction of the visual field. 3rd. Anæsthesia of the cornea. 4th. Dilatation and sluggishness of the pupil. 5th. Flattening of the anterior chamber. 6th. Ciliary neuralgia. 7th. Pulsation of the retinal vessels. And 8th. Cupping of the optic nerve-entrance. The augmentation of the intra-ocular pressure is believed to be caused by excessive secretion ("diffuse imbibition,") of the aqueous and vitreous humours; the ciliary neuralgia ("ciliary neurosis,") is undoubtedly caused by pressure upon the ciliary nerves, and the dilatation of the pupil ("iridoplegia") due to paralysis of the nerves supplying the iris.

In most cases of glaucoma, the process is evidently of an inflammatory nature; but it is yet to be proved that inflammation is an essential part of the glaucomatous process. The most eminent authorities now regard glaucoma as depending on inflammation of the choroid, ciliary body, and iris, resulting in excessive secretion of the aqueous and vitreous humours which cause augmented tension of the globe. Prof. Donders maintains, however, that although most cases of glaucoma are accompanied by symptoms of irido-choroiditis, yet the inflammation is secondary, and that the intra-ocular pressure is the essence of the disease.

Glaucoma is most frequently met with between the ages of 50 and 60, and may be called a disease of old age.

We will see, as we proceed, that glaucoma may appear as a primary or as a secondary disease. In the former case, the two eyes are never attacked simultaneously; but after the disease has attacked one eye, there

is a great tendency in the disease to invade the other also; sometimes a few days only may elapse; in other cases many months, or even years. When glaucoma supervenes upon another affection of the eye, as, for instance, traumatic cataract, iritis, &c., it is called secondary glaucoma.

II.

The varieties of glaucoma are:—I. Acute inflammatory glaucoma. 2. Chronic inflammatory glaucoma. 3. Glaucoma simplex. 4 Secondary glaucoma.

I. ACUTE INFLAMMATORY GLAUCOMA.

According to Von Graefe, there is a premonitory stage in about 75 per cent. of the cases of acute glaucoma.

Premonitory Stage.—The symptoms of the precursory stage are arranged by Soelberg Wells in the following order:—(1.) Increased tension of the eye-ball. (2.) Marked increase of any existing presbyopia. (3.) Venous hyperæmia. (4.) Haziness of the aqueous and vitreous humours. (5.) Dilatation and sluggishness of the pupil. (6.) Periodic dimness of sight. (7.) The appearance of halo or rainbow round a candle. (8.) Intermittent pains in and around the eye; these are not always present. (9.) Slight contraction of the field of vision.

These symptoms may be so slight as to escape observation; or they may be very marked; their intensity varying with the severity of the attack. When the attack is severe, we may often observe, also, diminution of the anterior chamber, arterial pulsation, and indistinctness of vision.

(1.) *Increased Tension of the Eye-Ball.*—In ascertaining the degree of tension, the patient should turn the eyes downwards, and gently close the eye-lids; the surgeon now applies the forefinger of each hand to the upper part of the eye-ball above the cornea. By making pressure alternately with the two fingers, he can easily ascertain whether the globe can be readily dimpled, or is of a strong hardness. Mr. Bowman, of London, distinguishes nine degrees of tension of the globe,—normal tension, four degrees of increased tension, and four degrees of diminished tension,—as follows:—Normal tension; doubtful increased tension; first degree, or *slight* but *positive* increase of tension. Second degree of increased tension, or *considerable* tension; third degree of increased tension, called *extreme* tension; doubtful diminished tension; first, second and third degrees of diminished tension.

For convenience and accuracy in notetaking, Bowman designates these degrees by special signs; thus, in the order in which they have just been mentioned:—Tn. T1.? T1. T2. T3. — T1.? — T1. — T2. — T3.

In the premonitory stage of acute glaucoma, the increased tension of the eye-ball never reaches the third degree or extreme tension, in which the fingers cannot dimple the eye by firm pressure; it varies in degree, however, but seldom reaches more than the first degree in which there is slight but positive increase of tension.

(2.) *Rapid Increase of any Pre-existing Presbyopia.*—We know that as age advances, the "near point" recedes from the eye; in youth we can read ordinary type at a distance of less than 4 inches; but at the age of 40, in order to see the letters distinctly, we must hold the book or paper at least 7 inches from the eye. During the premonitory stage of acute glaucoma, and often before any other symptom, it is found that the "near point" usually recedes in a very rapid and marked manner; the patients, who are generally over 50 years of age, being obliged, in the course of a few months, to change their reading glasses repeatedly for stronger ones.

This rapid increase of the presbyopia appears to be due to paralysis of the ciliary muscle; the paralysis being the effect of the excessive intra-ocular pressure upon the nerves supplying the ciliary muscle.

(3.) *Venous Hyperæmia.*—In chronic glaucoma, the ciliary veins are dilated aud peculiarly tortuous; but in the premonitory stage of acute glaucoma, the congestion is generally slight. A few dilated veins are generally seen running here and there over the sclerotic.

With the ophthalmoscope, we find that the retinal veins are also dilated and tortuous, but not to the same extent as in later stages of the disease.

(4.) *Cloudiness of the Aqueous and Vitreous Humours.*—In the majority of cases, during the premonitory stage, the cloudiness of the aqueous and vitreous humours is but moderate in degree; in some cases it is hardly perceptible; in others the diffuse haziness of the vitreous is so marked that it prevents ophthalmoscopic examinations.

(5.) *Dilatation and Sluggishness of the Pupil.*—In the advanced stage of glaucoma, the pupil is usually much dilated, and quite immoveable; but in the premonitory stage of acute glaucoma, the dilatation is never so well marked. Upon examining the pupils of a patient, one of whose eyes is healthy, and the other attacked by the first stage of acute glaucoma, we find that the latter is slightly more dilated than the former, and responds less upon the stimulus of light.

(6.) *Periodic Dimness of Sight.*—The character of the periodic dimness of sight in this stage of acute glaucoma, may be imitated by pressing the finger upon a healthy eye. According to Donders and Soelberg Wells, the dimness of sight is caused by stagnation and fulness of the

veins, and perhaps the emptying of the arteries. "The increased pressure produces the changes of the circulation, and the latter causes the obscurations. The truth of this assertion is also proved by the fact that these attacks of dimness are generally brought on by anything that causes congestion of the blood-vessels of the eye—for instance, a full meal, great excitement, long continued stooping, violent exercise, &c."—(*J. Soelberg Wells.*)

(7.) *The appearance of a halo or rainbow round a candle.*—In the premonitory stage, this is a very constant symptom. Upon looking at a lighted candle, the patient sees coloured rings, forming a halo round the flame.

(8.) *Intermittent pains in and around the eye.*—("Ciliary Neurosis.") We find generally, pain more or less acute in the forehead, temples, and passing down the side of the nose. These pains accompany the intermittent dulness of sight.

(9.) *Slight contraction of the field of vision.*—During these periodic attacks, objects upon which the eye may be fixed, are sometimes observed to be surrounded by a shadowy haze. The particular object to which the eye is directed is distinct, but surrounding objects may appear ill-defined, and in some directions quite indistinct.*

A simple method of examining the extent of the field of vision is described by Soelberg Wells; as follows. "The patient being placed straight before us, at a distance of from 15 to 18 inches, is directed to look with the eye under examination (closing the other with his hand) into one of our eyes, his right eye being fixed upon our right, and *vice versâ*. In this way, any movement of the eye may be at once detected and checked. Whilst he still keeps his eye steadily fixed upon ours, we next move one of our hands in different directions through the whole extent of the field of vision (upwards, downwards, and laterally,) and ascertain how far from the optic axis it is still visible; we then approach the hand nearer to the optic axis, and examine up to how far from it he is able to count fingers in different directions. We may thus readily discover whether the field of vision is of normal extent, or whether it is defective or obliterated in certain directions."

Second Stage.—("*Glaucoma Evolutum.*") The second stage of acute glaucoma is sometimes ushered in without any premonitory symptoms. Usually, however, the affected eye has been subject to repeated attacks of the premonitory symptoms for a period of several months or even

* Called eccentric obscurations. When the eye is so directed that a line drawn from the object through the centre of the pupil would strike the macula lutea it is called *central fixation*; should it strike elsewhere, it is *excentral fixation.*

years. At first these symptoms are observed at intervals of several months or longer. Gradually the attacks become frequent, until they occur at intervals of only a few days.

If, after a premonitory attack, the pupil is dilated and sluggish, and the impairment of vision continues, and especially if the optic nerve entrance is already cupped, the disease has advanced to the second stage. Von Graefe calls the second stage of acuteglaucoma—*glaucoma evolutum*, and describes it as follows.

"The special outbreak of the disease is generally sudden; sometimes it is developed by a gradual increase in the premonitory attacks. The general appearance of an internal ophthalmia is presented; violent, often unbearable pains in the eye, but especially in the forehead, temples, and side of the nose (as far as the extremity of the bone), injection of the subconjunctival vascular network, not unfrequently to the extent of chemotic swelling, with copious lachrymation, but with very little mucus; the anterior chamber diffusely hazy, the cornea generally dulled on its posterior surface, the pupil irregularly dilated, occasionally also broad posterior synechiæ, the iris of a dirty hue and pressed forwards; the power of vision sometimes entirely lost as if by a stroke, sometimes only much disminished; the field of vision, when it can be measured, either normal or somewhat concentrically contracted, at the same time, in the mass of cases, there are well marked subjective appearances of light, photopsia, chromopsia; as the rule, these violent symptoms arise in a restless night, and generally after much previous suffering from want of sleep. These inflammatory attacks may recede, vision being partially or almost entirely restored; yet the anterior chamber usually remains somewhat flatter, the pupil a little dilated, and more sluggish, the iris spotted, and the visual field often somewhat contracted. Such a temporary restoration may be spontaneous, although it is usually obtained by antiphlogosis, by opium in large doses, and by paracentesis of the anterior chamber. But in many cases the blindness continues from the very first attack, notwithstanding the retrocession of the inflammatory symptoms. The insidious nature of the disease is such, that either these inflammatory attacks are occasionally repeated, each time leaving a renewed and greater deterioration of vision, or no fresh inflammatory symptoms again appear, yet the visual field becomes continually more contracted, finally excentric, the grayish hue of the iris increases, the pupil dilates and entirely loses its mobility, the globe becomes constantly tenser, and the cornea perfectly anæsthetic. During this process the refractive media—the aqueous humour and vitreous body—may again loose their diffuse

turbidity, so as perfectly to allow ophthalmoscope examination of the back of the eye; then we generally find certain changes in the internal membranes, peculiar retinal ecchymoses in the form of round spots, and not unfrequently larger choroidal extravasations, especially in the equatorial region. There are also constantly found, at this later period, a progressively increasing excavation of the optic nerve, and arterial pulsation, appearing either spontaneously or on the slightest compression with the finger, appearances which are entirely absent after the first or the few first attacks."

Von Graefe has lately called attention to a very rare form of acute glaucoma which he has termed *glaucoma fulminans*, in which the progress of inflammation is so rapid, that the sight of an eye previously healthy, may be perfectly lost a few hours after the outbreak of the disease.

Two other forms of acute glaucoma are sometimes observed, the *hæmorrhagic* and the *subacute*; I must content myself with merely alluding to them.*

2. CHRONIC INFLAMMATORY GLAUCOMA

Chronic inflammatory glaucoma sometimes follows an attack of the acute inflammatory disease; but it is more frequently developed from the premonitory stage; the disease not advancing to the second stage of acute glaucoma, and before there is any distinct internal inflammation recurring periodically.

As the disease progresses, the premonitory attacks continue for a longer time; the intermissions become gradually less distinct, and at length there are simply remissions in the symptoms.

Chronic glaucoma may lead to complete destruction of vision without much pain or other symptoms of acute inflammation; the eye being reduced to the same condition as in acute glaucoma after the inflammatory process has ended.

The tension of the eye becomes gradually very much increased until it can be no longer dimpled by firm pressure with the finger; the subconjunctival veins are dilated and tortuous; the cornea becomes flatter and loses its extreme sensitiveness; the iris is slightly discoloured and pushed forwards; the anterior chamber becomes shallow; the aqueous and vitreous humours become occasionally turbid, particularly after a full meal, excessive excitement &c; the pupil is widely dilated and usually

* For further information on these subjects, see Von Graefé's memoirs on glaucoma in vol. v. of the publications of the New Sydenham Society; also four lectures on glaucoma by J. Soelberg Wells published in 1864 by J. Churchill & Sons, London.

immoveable; the field of vision becomes more and more contracted and the acuteness of vision diminished and finally completely destroyed.

If the aqueous and vitreous humours remain sufficiently clear for an examination with the ophthalmoscope, we will find the optic nerve entrance excavated, the veins of the retina widely dilated and tortuous, and the arteries diminished in calibre.

THIRD STAGE.—*Glaucoma absolutum* is the name given by Von Graefe to that stage of acute or chronic glaucoma when the disesse has run its course, vision being lost, and when all chance for benefitting the sight by an operation is past.

LAST STAGE.—In the last stage of glaucoma, all the tissues of the eye are either atrophied or softened; Von Graefe calls this *glaucomatous degeneration*.

3. GLAUCOMA SIMPLEX (DONDERS.)

This disease was first described by Von Graefe as "Amaurosis with excavation of the optic nerve," and by Soelberg Wells as "Apparently non-inflammatory glaucoma." Glaucoma Simplex differs from acute and chronic glaucoma in the fact that it may run its course, even to complete blindness, without the appearance of any inflammatory symptoms. The first symptom, generally, in this form of glaucoma, is increased intra-ocular tension. If the increased tension continues, the optic nerve-entrance becomes excavated, the nerve atrophied, the arteries diminished in calibre, and vision may be completely lost. In the majority of cases, however, inflammatory symptoms show themselves either during the progress of the disease, or long after blindness has supervened. Von Graefe mentions an interesting case which illustrates the fact that the inflammatory symptoms in glaucoma simplex are sometimes very transitory in their character. A patient of his for several years past was subject to attacks of glaucomatous symptoms in his right eye only after having played at cards for some time. The tension of the eyeball on such occasions would be very manifest, the pupil dilated and sluggish, the iris and lens pushed forwards, and vision indistinct. With the ophthalmoscope, the retinal veins would be seen to be dilated, and the faintest pressure upon the eyeball would produce arterial pulsation. The excavation of the optic nerve-entrance would not be present as the intra-ocular pressure would be too transient. On the following morning all these symptoms would disappear and the vision again become normal.

Glaucoma simplex also differs from inflammatory glaucoma in the fact that the two eyes are sometimes attacked almost simultaneously, or the one very soon after the other, and also that it often attacks myopic eyes.

(To be continued.)

Compound Dislocation of the Ankle treated by Cold Water. Reported by DRS. WHITCOLM AND FULLER.

(Continued from page 52.)

July 12th. The patient is to-day in the street, he can move the foot with the heel on the ground far enough back to take a short step from it. There is considerable thickening around the joint; frictions are applied twice a day with a stimulating liniment.

Aug 15th. The patient walks with a cane and is attending to his business with little inconvenience; he has all the natural movement of the joint, can bend the foot inward only to a slight degree, but the motion is improving as the imflammatory thickening subsides. The patient can flex and extend the foot so that he can take about a natural step.

Observations. This case is of importance not only because it is out of the usual mode of practice in such cases, and terminating with such a happy result, but it shows what may be done by the steady perseverance of a remedy applied by principle in any injury involving or laying open a joint. The principle which has guided us in the treatment is one derived from Mr. Paget, viz: "That the healing process, or repair of injured parts, takes place in the inverse ratio to the amount of inflammation present." To diminish action in the part, and to avoid inflammation as much as possible, therefore we applied cold. Ice and cold water were the cheapest and best remedies; we kept the part cool from the commencement, and never allowed it to get warm until there was no farther danger of inflammation and suppuration of the joint. The icebag to the leg was a valuable auxiliary in keeping the ankle cool, the blood being thereby cooled before it reached the part. Cold bathing we have found a valuable remedy in traumatic as well as in other fevers, which by lowering the temperature of the body, exerted its influence, likewise, upon the injured part. Opium was freely administered so as to relieve pain, and we particularly noticed the much greater relief obtained, and longer effect produced, by the hypodermic method, and the improvment of the tongue and digestion after its use. The splints were changed often and the leg also placed in different positions in order to give ease to the patient. The part was not fixed as in a fracture and great care was taken of the heel.

When first taken out of the splint the sole looked inward, but this was remedied by a wide plaster tightly drawing the foot to the outside.

An error was committed by not covering the wound sooner and protecting it from the direct effects of the cold, though this led to no serious consequence; we tried to close the joint by producing a scab but found no good result.—Granby, Aug. 28th, 1866.

In giving the above, the concluding portion of Drs. Whitcolm and Fuller's paper, published in our last issue, we can only remark, by way of explanation, that by some unforseen circumstance, the type was overlooked; we were ourselves absent from the city at the time the No. went to press, and the gentlemen in whose hands we left the work to be done, omitted this portion.—ED.

REVIEWS AND NOTICES OF BOOKS.

A Practical Treatise on Urinary and Renal Diseases, including Urinary Deposits. Illustrated by numerous cases and engravings. By William Roberts, M.D., Fellow of the Royal College of Pysicians, London; Physician to the Manchester Royal Infirmary; Lecturer on Medicine in the Manchester School of Medicine. 8vo. pp. 516, Philadelphia: Henry C. Lea, 1866; Montreal: Dawson Bros.

There are few subjects of special pathology which have made greater strides during the last few years than diseases of the urinary organs. The design of this work, is to give the practitioner an account of organic diseases of the kidneys, and of that class of affections characterised by some alteration of the urine.

The work is divided into three parts, the first of which is introductory to the other two, inasmuch as it treats of the physical and chemical properties of the urine, and of the various changes it undergoes in different conditions of health and disease, in so far as they possess a practical bearing. In the introductory chapter, Dr. Roberts gives a diagram of a most useful clinical companion, consisting of a circular stand with two tiers, somewhat resembling an ordinary cruet stand, but made with compartments to hold all apparatus necessary for testing the urine at the bed side. This is intended for Hospital use, as we can always in private practice, procure a supply of urine and carry it home to our own laboratories. The first part of the book treats upon the physical properties of urine; its chemical constituents; inorganic deposits; abnormal substances found in urine; organic deposits, &c. The various substances, found in urine, as uric acid and its salts, the oxalates, cystine, xanthine, leucine, the phosphates, &c., are treated of, and their microscopical appearances illustrated. Urea may be regarded as the principal constituent of this section, when it is remembered that the daily separation of urea by an adult in health, between the ages of twenty and forty, averages about 500 grs. It is the final product of the metamorphosis of albuminous tissue, and is the form under which the greater part of the nitrogen leaves the body. Professor Haughton published a table in the *Medical Times* in 1864, whereby he estimated the amount of urea excreted, by taking the specific gravity of the entire quantity of urine passed in 24 hours. This for most practical purposes will be found sufficiently correct, but does not apply in urine where there exists either albumen or sugar. Dr. Roberts gives this table somewhat abridged.

In this chapter are given Liebig's volumetric method for the quantitative estimation of urea, and also Davy's process, which is less exact. These for the most part are normal constituents of urine.

The next chapter treats of the various substances which are not peculiar to this secretion and which as a rule are found as evidence of diseased action, such as puss, blood, fatty matter, cancerous and tuberculous matter, spermatozoa confervoid vegetations, albumen and sugar. The second part of the work is devoted to urinary diseases, or diseases of which the chief characteristic is some alteration of the urine itself—such as diabetis insipidus; diabetis mellitus; gravel and calculus; and chylous urine. Each of these subjects are illustrated by cases, some of which have come under the notice of the Author.

Diabetes insipidus; characterised by increased thirst and excessive discharge of urine, limped in character, and low specific gravity free from sugar and albumen. From the observation of the past no special uniformity exists either in the course of the symptoms, or the anatomical lesions found after death. The disease appears to be rapid in its attack, coming on in some cases after blows received on the head; great muscular exertion; following febrile or inflammatory disease; exposure to the hot sun; cerebral disease; or it may have existed from birth. But the very large proportion of cases appear to have no exciting cause. It has been observed at all ages, from infancy to extreme old age.

This singular malady is not necessarily fatal, as persons have suffered from this condition from infancy to advanced life. When it accompanies or follows other lesions, as of the brain &c., the symptoms resemble much in their course and termination that of the other form of diabetes. Again cases are mentioned in which this condition was cured after having existed for years, by the application of a blister in the course of treatment of acute pleurisy.

" It is now generally believed that the minute bloodvessels possess in their circular and longitudinal muscular coats a provision for an active expansion as well as an active constriction of their calibre. This provision is under the control of the sympathetic branches of nerves (nervi vasi-motores), and serves to maintain the aqueousness of the blood within certain limits of health. When the tissues and blood are overcharged with water, the renal vessels expand, and permit a copious transudation of an aqueous urine; when, on the other hand, the system is undercharged with water, they contract, and thereby restrict the urinary transudation. In diabetes insipidus this endowment seems greatly impaired; the renal capillaries appear to resemble the iris in glaucoma, which remains in a motionless, semi-dilated state, and neither contracts

with light nor dilates with belladonna. In polyuric subjects the contractile power of the renal vessels is apparently paralyzed; and the power of regulating the urinary flow consequently lost.

"On this view, the primary cause of diabetes insipidus must be looked for in some other parts than the kidneys; namely, in some part of the chain of sympathetic nerves which controls the action of the contractile tissues of the renal vessels. This chain extends from the kidneys to the abdominal ganglia, thence to the spinal cord and the floor of the fourth ventricle, where the sympathetic system seems to have its centre. From above, this centre receives impressions from the encephalon.

"This theory seems conformable both to experiment and to clinical facts. Bernard found that by puncturing a certain spot in the floor of the fourth ventricle, an augmented secretion could be produced of a watery urine, containing neither sugar nor albumen. A large proportion of the cases of diabetes insipidus followed injuries to the nervous centres, or were evidently dependent on some derangement of the nervous system. In the case examined by myself, palpable disease of the brain was found after death, while the kidneys were healthy. In other cases, it is probable that the sympathetic in the abdomen was the point originally injured. Among such may be classed those arising from drinking cold fluids while heated, and perhaps also those following alcoholic excesses. Another feature of the disease, favourable to the theory of its nervous origin, is its occasional sudden onset after events which do not directly implicate the urinary organs; and its equally sudden subsidence when a strong impression is made on the system by an intercurrent inflammation. The total and unexpected disappearance of the disease, after continuing many months or years, is more in accordance with the habit of neuroses or nervous diseases than of any other maladies."

There is a most interesting chapter on chylous urine. This singular disease is peculiar to the tropics, although cases have been noted by European practitioners, but the individuals were either colonists or had resided for some period in tropical climates.

Dr. Roberts throws out a conjecture that it may be of parasitic origin. He says:—

"The prevalence of the disorder in certain countries, and the close connection which Rayer showed to exist between it and the endemic hæmaturia of the same countries, leads conjecture a step farther. It has been recently demonstrated by Griesinger that the endemic hæmaturia of Egypt owes its origin to the ravages of a minute parasite—the Bilharzia hæmatobia—which lodges its ova in the mucous membrane of the

urinary passages. A similar demonstration has been made by Dr. Harley with respect to the endemic hæmaturia of the Cape of Good Hope; and we may infer a similar origin to the endemic hæmaturia of the Mauritius, Brazil, and other countries. On these grounds, it may be conjectured that chylous urine owes its origin, in like manner, to the destructive operations of some parasite whose seat of election is the lymphatic system of the urinary passages, and that in the course of the development of its ova a communication is opened between the lymphatic channels and the urinary passages. At any rate, it is worth investigating whether parasitic ova may not be discovered occasionally in the deposit of chylous urine."

The treatment of this affection is very unsatisfactory, as it generally resists treatment, coming apparently without any recognised cause, and disappearing frequently without any remedy. There is mentioned a case by "Dr. Bunyan, of George Town, British Guiana, (*Lancet*, 1846, I, 95), who relates a very interesting case, in which the disease had lasted ten months. Various remedies were tried without success. On the advice of an old negress, the patient took a decoction of mangrove bark (Rhizophora racemosa), in ounce doses, four times a day. In seven days, he was so greatly improved that he discontinued the medicine for two days, when the symptoms returned. The medicine was resumed in increased quantity, and continued for several days, until all the symptoms had entirely disappeared. Afterwards he suffered two returns of the disorder, which were immediately cut short by the use of the mangrove bark."

The third part of this work is devoted to organic diseases of the kidneys; space will not permit our giving more than a passing notice, to the many excellent chapters in this division of the work. There are two chapters on Bright's disease, in his remarks on uremia the author quotes the observations of Oppler, Perls, Zalesky and others, which tend to shew that urea, if found in the blood at all, is so, after having been re-absorbed from the urinary channels; they infer that urea and urec acid, are formed in the kidney, and furthermore they seem to indicate that uremic manifestations depend essentially on the accumulation of creatine creatinine and other extractives, which in a later stage are converted into urea and uric acid.

The other chapters in this division are on suppuration in the kidney; renal embolism; pyelitis and pyonephrosis; concretions in the kidney; hydronephrosis; cysts and cystic disease of the kidney; cancer and tubercle; begin growths, and also entozoa in the kidney. The last chapter is on anomalies of position, form, and number of the kidneys.

In conclusion we cannot but highly recommend this work as of great value to the practitioner; it supplys a want long felt, and will be of the greatest use to the physician in enabling him to perform a duty which is incumbent on us all, viz., to inquire into the condition of the urinary secretion in a large proportion of the cases which come under our observation. The work is neately got up, printed on good paper, and the illustrations clear and distinct. To be had of Dawson Bros., Great St. James Street.

Lectures on the Diseases of Infancy and Childhood. By CHARLES WEST, M.D., Fellow of the Royal College of Physicians, London, Physician to the Hospital for Sick Children. Fourth American from the fifth revised and enlarged English Edition. Philadelphia: Henry C. Lea. 1866. Montreal: Dawson Brothers.

THIS work has been so long before the profession, and has obtained such a prominent position as a standard work upon the very important subject of the Diseases of Children, that it is useless for us to enter upon any lengthened remarks. The best test of its value, is the fact that there are few physicians who do not possess it in their libraries, and there are not many books called more into requisition. Since its first appearance in 1848, it has run through four large editions in England, and three in America. It has also been translated into almost every European language. Dr. West is a most accurate observer, and the great opportunities, which he has possessed as physician to the Hospital for Sick Children in Great Ormond street, have certainly been improved—the profession at large reaping the benefits of his exertions. Diseases of children are peculiarly trying to the physician; no class of affections more so. The little sufferer is unable to tell his ailments, the symptoms alone being made out by careful observation—hence the value of a plain, practical work to the mass of our profession, from the pen of so practical and laborious a man in this special department as Dr. West. The present edition embodies the result of 1200 recorded cases, and nearly 400 post mortems, collected from between 30,000 and 40,000 children, who, during the past twenty-six years, have passed through his hands, either in public or private practice. In once more strongly recommending this work to all our readers, we must congratulate Dr. West upon his popularity as an author. Now that he is entering upon the sear and yellow leaf of life, it must be a satisfaction to him to find that his labours, hard and arduous as they must have been, are appreciated; and that the profession gladly recognises itself his debtor, in a field so peculiarly difficult of elucidation, viz.: that of the diseases of infancy and childhood.

The Physicians' Visiting list for 1867, *Lindsay & Blakiston, Philadelphia.*

This very useful memorandum book for physicians has been kindly forwarded to us by the publishers. We can very strongly recommend it to the profession, as embracing almost everything which can really be desired in a book of its character. By the way, we would feel obliged if in future the publisher would forward us a copy for 50 instead of 25 patients. Messrs. Dawson Brothers have the visiting lists for sale. By their use we are sure the physician will save at least their cost every day.

PERISCOPIC DEPARTMENT.

Surgery.

SUPRA-PUBIC OPERATION FOR STONE IN THE BLADDER OF A GIRL SEVEN YEARS OF AGE.

By W. F. Westmoreland, M. D., Professor of Surgery in the Atlanta Medical College.

In march, 1862, I was requested by Mr. G—— to visit his daughter, seven years of age, who, he said, had for several years suffered from stone in the bladder. Upon my arrival, I found my little patient poorly developed for her age—delicate and considerably emaciated from long continued suffering. From the history of the case, as given by the mother, I learned that she had suffered for three or four years from the ordinary symptoms of stone in the bladder; and that, for three years previous to my visit, her sufferings had been intense, and was evidently telling upon her constitution.

Upon examination with the sound, a stone of considerable size was readily detected. It was evident that the immediate removal of the calculus was the only means of relieving the sufferings and prolonging the life of the patient.

The propriety of an immediate operation decided upon, the question presented itself as to the best method of removing the stone. The dilitation of the urethra, either with or without the longitudinal section of this canal, as recommended, in the adult female, by several surgeons for the removal of stone through this natural opening from the bladder, was rejected as impracticable in one so young; that if it was possible, it would almost certainly entail that terrible condition, permanent incontinence of urine. "Vaginal Lithotomy"—which in the adult may be performed

with less risk, perhaps, to life than any other operation for stone in the bladder in the female—was regarded as impracticable in one so young and poorly developed as our little patient, requiring a length of time to dilate the vaginal canal—entailing an amonnt of suffering and irritation, which, in her condition, she was poorly able to bear: and at last, if successful in removing the stone by this procedure, a vesico-vaginal fistula being almost the invariable result, would require a second operation, which, in a subject only seven years old, would be attended with many difficulties.

Lithotripsy, the method, perhaps, the most frequently resorted to for the removal of stone from the female bladder, was regarded as difficult and hazardous. In addition to the tender age of the patient, from long continued irritation, the urethra and adjacent tissues were considerably indurated, and this canal consequently constricted. The bladder, too, was so excessively irritable that it was found impossible to have retained in this viscus the least quantity of water, so that if we could have succeeded in overcoming the first difficulty, and introduced the lithotrite into the bladder, we would have experienced perhaps, a greater difficulty in attempting to grasp the stone in the flaccid condition of the organ, and more danger still by lacerating and contusing the mucous membrane with the instrument, if we had attempted to crush it.

In consultation with Drs. H. W. Brown and N. D' Alvigny, thè *supra-pubic* or *high* operation was determined upon. In a few days after my first visit, assisted by the above mentioned gentlemen, the following operation was performed.

An incision two inches and a half or three inches long was made through the skin and cellular tissue commencing above and following the linea alba, and terminating at the symphysis; a partial section of the abdominal parieties was next made. As it was impossible, from the iritable condition of the bladder, to distend it with fluids, and from the irritable and small size of the urethra, to introduce the sound of M. Come, an ordinary metallic bougie was now introduced and the contracted bladder forced above the symphysis pubis by the instrument. A careful dissection was now made until the bladder was reached; by means of two tenaculums inserted in the walls of the bladder, the fourth of an inch apart, the organ was fully under the control of the assistant who held the two hooks. The walls of the bladder were now punctured between the two tenaculums, and the incision made sufficiently large to introduce the forceps.

A stone an inch by three-quarters of an inch in diameter was, without difficulty, removed with the forceps.

A small silver catheter was now introduced into the urethra and confined in the bladder. For the first eight or ten days there was considerable febrile excitement. I found great difficulty, after the first twenty-four hours, in retaining a catheter in the bladder—the presence of the instrument causing great uneasiness.

On the twelfth day after the operation, the battle of Shiloh was fought, and I was immediately ordered to Corinth, Mississippi. Upon my return to Atlanta in June following, I was gratified to find my little patient entirely recovered.

Dr. D'Alvigny, in whose care the patient was left, informed me that she had considerable fever, with diarrhœa, for several days after I left; in every other particular she did well.

I last saw the patient two years after the operation, and she was then in the most perfect health.—*Atlanta Medical and Surgical Journal.*

A NEW REMEDY IN GONORRHŒA.

By J. S. Prettyman, M.D., of Milford, Delaware.

In July, 1859, while narrowly observing the effects of oil of erigeron administered in a fearful hæmoptysis, I was led to suspect that it would prove a useful remedy in the treatment of gonorrhœa. Acting upon this presumption, I immediately commenced giving it to a patient then under my care, in whose case all the vaunted specifics had most signally failed. He improved at once, and was speedily cured. Since that date I have prescribed it in about fifty cases, with unvarying success. It arrests the discharge in about seventy-two hours, and effects a cure in from six to eight days. I do not recommend it as a specific in all cases, but design merely to bring it to the notice of the profession as an exceedingly valuable medicine in this disease. Of course all scientific medical practice is based upon the well-known pathological condition of the structure involved, and this is our unerring guide. When, in recent cases, the urethral inflammation is severe, my plan is to precede the remedy with a full dose of some active hydragogue. A good formula is: R.—Pulv. sennæ ʒij pulv. jalapæ ʒj; pulv. aromaticus gr. x. M. Add a gill of boiling water and a teaspoonful of sugar, and, when sufficiently cool, agitate and swallow at a dose. As soon as this operates, give ten drops of the oil on sugar, and three hours later a full dose of spts. æther. nit. in infus. althea, and so on, every three hours alternately, until the urethral irritation is allayed. Then leave off the latter, continue the oil until the cure is complete. If the case is not recent, or there is but little urethral irritation, the oil alone is sufficient.

I have used it also in combination with copaiba and other articles, and found such preparations to answer a good purpose, but no better than the oil alone.

The oil which I use is reputed to be that of the *Erigeron Canadense;* but I presume that from the *Philadelphicum* is equal, if not superior for this purpose.—*American Journal of the Medical Sciences.*

A METHOD FOR REMOVING A FOREIGN PARTICLE FROM THE CORNEA.

By C. R. Agnew, New York.

A. B., a machinist, while "driving home" with a hammer and chisel the packing of a pump, detached a bit of iron, which entered and imbedded itself in his right cornea, a little below its centre. I saw him for the first time on the 22d of the present month, *one* year after the occurrence of the accident. Immediately after the occurrence of the accident he sought advice, and had persistent but unsuccessful efforts made to remove the foreign particle. For twelve months the particle of iron lay in the cornea, keeping up a constant irritation. When the case came under my observation, I found that the particle of iron had perforated the cornea, tapped the aqueous chamber, and was resting with one end in the anterior chamber, and the other on a level with the external surface of the cornea. Iritis was rapidly coming on. I soon satisfied myself that any attempt to remove the particle of iron by simple manipulation from without would result in forcing it into the anterior chamber, and lead to loss of the eye by consecutive inflammation.

Accordingly I placed the patient under an anæsthetic, and proceeded to operate for the removal of the particle. I first held the eyelids apart by means of a spring, or wire speculum, then passed a Beer's knife through the cornea behind the foreign particle, and out again towards the nasal margin of the cornea, so as to present a retentive barrier behind the foreign particle.

An assistant now held the Beer's knife, while I gently dug out the particle from the depth of the corneal ulcer. A few drops of a solution of sulphate of atropine, two grains to the ounce of water, were now dropped into the eye, and a light compress wet with cold water applied. In two days all trace of the incision in the cornea had disappeared, and the small ulcer left by the removal of the foreign particle was kindly healing up.

The main points in the case are, that the foreign particle had penetrated and drained the anterior chamber; that it was lying in the corneal wound, and keeping up a violent irritation, threatening destructive in-

flammation; and so nicely balanced that the slightest effort made to remove it by manipulation from without would have tilted it into the anterior chamber, where it might have been lost, and thus have become the occasion of destructive irido-choroiditis.—*Medical Record, New York.*

ENTIRE DISLOCATION OF THE CLAVICLE.

On January 26th, 1863, Dr. N. L. North of Brooklyn, New York, was called to see a boy of about fourteen years of age, who had been thrown backwards from a stool or slight eminence, upon which he had been placed, and came down striking with his whole weight upon the back of his left shoulder. Upon examination, Dr. North found the shoulder depressed and thrown forwards; the centre of the clavicle fallen in as if fractured, with an abrupt rounded prominence at the sterno-clavicular articulation, and a sharp prominent ridge on the top of the shoulder, standing three-fourths of an inch above the superior point of the acromion process, and running from that process towards the neck, for about an inch, then gradually tapering down to the usual form of the neck. The boy complained of a great amount of pain and considerable difficulty of breathing. Dr. North concluded from his examination of the case, that there was an entire dislocation of the clavicle without fracture, both ends, with of course the entire bone, having been forced out by the force of the blow or fall upon the shoulder, and then drawn half way over forwards and downwards by the large pectoral and deltoid muscles. The round prominence in front was caused by the turning of the sternal end of the bone, and the sharp ridge on the top of the shoulder was caused by the turning up of the trapezoid portion, while the depression in the centre was the effect of the turning down of the convexity at the middle portion of the clavicle. The shoulders having been forcibly thrown backwards, and retained in position with long strips of adhesive plaster applied in the form of the figure-of-eight bandage, compression with the right thumb and finger, backwards and downwards upon the trapezoid portion of the clavicle, and at the same time, with the thumb and finger of the left hand upon the sternal end of the bone, firm pressure was made upwards and backwards. Dr. North felt the ends of the bone return to their normal positions, the proper shape and symmetry of the parts being completely restored. He applied compresses successively to each end of the bone, retaining them by means of adhesive straps; and applied Day's "neck-yoke" apparatus for fractured clavicle. In the course of two weeks he commenced loosening the dressings, and at the end of three weeks he removed them altogether, and discharged the patient well.—*New York Medical Record.*

TRANSFIXION OF THE BASE OF THE TONGUE BY A NEEDLE; DIAGNOSIS AND REMOVAL WITH THE AID OF THE LARYNGOSCOPE:

The following case, admitted into Westminster Hospital under Dr. Gibb, strikingly illustrates the valuable aid afforded by the laryngoscope in discovering foreign bodies lodged in the throat:—

"Mrs Annie D., aged seventy-six years, was admitted as an out-patient on May 19th, under Mr Power, with the impression that she had a pin in her throat. He transferred her to Dr. Gibb for examination by the laryngoscope. She stated that she resided at Dulwich with her daughter, and that two weeks ago she swallowed a pin with some pudding. She felt it prick the throat right across, followed by severe pain, particularly on the left side, and dysphagia. Every now and then she had a choking sensation, with a disposition to retch. On the 13th (Sunday) she became nearly frantic with suffering, and the next day she retched continuously for nearly an hour. She had lived upon slops since the accident, and could only get them down by sipping small quantities. Her sufferings had been so severe that she had become exceedingly weak and feeble, and she was nearly suffocated on her way to town.

"Nothing could be detected externally. The neck was thin and all the structures were easily distinguished. There was some tenderness across the hyoid bone especially on the left side, where indeed there was a little tumefaction. In that situation the neck had been much swollen shortly after the foreign body was lodged, but this had subsided to a great extent. The voice was quite natural.

"In the fauces nothing was seen with the unaided eye, but on the tongue being held out and the laryngeal mirror introduced, the black point of a needle was seen emerging from the base of the tongue on its left side, near the lateral edge of the epiglottis, and occasionally coming in contact with it to the extent of about two lines. The needle had evidently penetrated the left side of the sac of the pharynx, transfixed the tongue's base in that situation, been driven through its structure, and emerged in the situation described.

"Any attempt at removal, without some guiding point, would have been futile. Dr. Gibb, therefore, made the patient protrude her tongue out of her mouth with firmness and resolution. He then introduced the mirror with his left hand, and with the right inserted a pair of curved forceps capable of holding the minutest body with unusual tenacity, and succeeded in getting hold of the point of the needle, which he pulled outwards towards the right side, and brought out of the mouth. On examination, it was found perfect, quite black, and an inch and a half long. All

symptoms of discomfort immediately subsided, and the patient left for her home, expressing herself in terms of gratitude and thankfulness for relief, after what she described as such 'horrid suffering and misery.'

"In some clinical remarks which Dr. Gibb offered upon this case, he observed that it might be taken as an invariable rule that pins were seldom discoloured, whereas needles were always black—an important point in the diagnosis when a portion only of the foreign body was seen with the laryngoscope. The patient's voice and breathing were natural; and although there were occasional attacks of dyspnœa and retching, yet beforehand it could be seen that the larynx was not in any way involved. The dyspnœa, and perhaps the retching, were due to the occasional contact with the edge of the epiglottis. He had recorded several cases in his own experience of the removal of pins and other substances, both from the larynx and fauces. In one case a pin had become lodged within the larynx of a gentlemnn, the head of which was situated in the hollow of the anterior angle of the thyroid cartilage. Symtoms of the most violent strangulation were present, and suffocation was imminent; until removal was accomplished, when they vanished, as it were, by magic. He doubted whether the patient in that instance would have been saved by even opening the trachea, unless the pin had been removed at the same time. In the generality of cases perfection of voice and breathing pointed to freedom of the larynx; but when the body could not be felt by the finger, and then removed, the employment of the laryngoscope afforded great assistance in diagnosis."—*Lancet*, June 30, 1866.

REMOVAL OF ENTIRE HUMERUS AND HEADS OF ULNA AND RADIUS AFTER GUN-SHOT INJURY. GOOD USE OF ARM BY AID OF AN APPARATUS.

BY JAMES B. CUTTER, M. D. (American Journal of Medical Sciences, Jan 1865.)

A Minie ball passed through the shoulder joint, Nov. 27, 1863, fracturing the head and neck of the os humeri, which were removed, with three inches of the shaft, three days afterwards. Ten days subsequently an abscess formed at the elbow joint, which was opened and gave exit to a large quantity of pus. July 21, 1864, an operation was performed for the removal of entire bone, including the heads of ulna and radius. Continued the incision made in the first operation down the ulna line of the arm to the forearm; removed the bone with very little injury to the surrounding parts. No ligatures were required, as the bleeding was completely arrested by the use of cold water. It is proper to state

that the tubercle of the radius was left, leaving the insertion of the biceps muscle. The lips of the wound were brought together with silver sutures and adhesive plaster, and comfortably supported at a right angle with splints. Succeeded in getting union by first intention almost throughout the entire length of incision. Three weeks after operation, wound healed completely, and patient moving about.

The carpal, metacarpal, and digital muscles were left powerfully subservient to the will for grasping, holding and pulling, though there is some paresis of the extensor-carpi digitorum. The arm, forearm, and hand are daily regaining a healthy tone; biceps and deltoid muscles contract strongly, zigzag, for lack of fixedness; the entire arm and hand are somewhat atrophied. The arm is shortened one and a half inches, is extremely flexible and ungovernable.

Three months afterwards, Dr. E. D. Hudson, the othopraxist of New York, made and applied an apparatus, the incipient results of which were, arm and forearm supported, strong, and reliable; arm oscillates at the shoulder; forearm flexes at will, at a right angle with the arm; holds parcels in his hands, lifts a pail of water perpendicularly, pulls strongly on a horizontal line; with practice will regain a highly commendable and gratifying use of his arm and hand, and demonstrate the exceeding utility and propriety of the extreme exsection as a beneficial alteration for an amputation. Dr. Hudson writes under date of November 27, 1865, that he has "since improved and reapplied this apparatus, omitting the wristband, and substituting an elastic strap across the chest from the shoulder pad passing to a soft pad, placed beneath the axilla of the opposite arm; further, that the general principle remains the same; and he is improving in the use of his arm, He was in there a few days ago, took an arm-chair and swung it at an elevatiou of 45°—almost at a right angle with his body."

AMPUTATION THROUGH THE KNEE JOINT.

There seems to be a growing impression in favor of this operation in Great Britain, and of late years it has been quite frequently performed; four times by Mr. Lane, twice by Mr. Coulson, once by Mr. Spencer Smith, once by Mr. James Lane, once by Mr. Pollock, three times by Sir W. Fergusson. The following cases of Mr. Pollock, Mr. T. Holmes, and Mr. Cooper Forster, are recorded in the London Lancet, January 13, 1866.

Mr. Pollock amputated through the knee-joint at St. George's Hospital, August 3rd, 1865, in a woman æt. 55, for a large ulcer of the leg from

which she was evidently sinking from exhaustion, by double flap, the anterior being somewhat the larger. Patient hardly rallied. On the 6th, anterior flap looked dark colored, and was about to slough, when she sank and died.

Mr. Timothy Holmes, at the same hospital, exarticulated the leg of a boy æt. 12, September 14th, 1865, for disease of knee joint. A semilunar cut across and below the patella was made, and it was removed. Mr. H.'s purpose was to excise, if the case seemed suitable, but the shaft of the tibia was found extensively diseased. A catlin was substituted for the bistoury, and this was passed transversely between the femur and tibia, was made to cut its way downwards and backwards, forming a posterior flap of the tissues of the calf. A shorter anterior flap was provided by the tissues in which the patella had rested. October 8th, discharged well.

Mr. Cooper Forster's operation at Guy's Hospital was done October 10th, 1865, for a recent compound comminuted fracture of tibia and fibula of the right leg, just below the knee, in a healthy laborer. A circular cut was made around the leg, two inches below the knee, the skin and superficial layers of fat were cut through and dissected back. The tendons of the hamstring muscles were then divided about opposite the middle of the joint, the ligaments cut and the leg freed from the trunk. The patella was dissected out. Discharged November 18th, 1865.

Medicine.

TONSILLITIS. Aphthous and Œdematous Varieties; Caustic; Incision.

This very common affection may be found worthy of brief commentary, and one of its forms is well illustrated by a case recently treated in Dr, Lyons' Clinique, Richmond Hospital, Dublin.

The patient, a young man, aged about 20, was admitted labouring under considerable dyspnœa, extreme dysphagia, and with a marked amount of pyrexial excitement. He stated that he had not previously laboured under sore throat, and had been attacked a few days previously with rigors, pain in the neck, difficulty of swallowing, pain shooting up to the right ear, and all the usual symptoms which attend the invasion of tonsillitis.

On inspection there was visible swelling externally on the left side, great distress in breathing and on attempts to swallow, and all the evidences of much febrile disturbance of the system.

On opening the mouth, which was accomplished not without difficulty, the left tonsil was found to be enormously engorged, projecting far beyond the mesian line, and carrying the uvula before it. It was also enlarged in a direction forwards, and had thrust the left anterior half-arch of the palate, part of velum palati and contiguous tissues, far forward into the mouth, causing very remarkable swelling of the parts involved, which were thrust forward so as to reach the level of the front molar teeth. The mucous membrane of the palate and inflamed parts was of a deep claret colour, and all the symptoms and appearances indicated the rapid advance of a high degree of erysipelatous inflammation. It might have been for some moments a question of grave debate as to what steps could be best taken for immediate relief of the urgent symptoms which were presented in this case; but relying on his former experience in circumstances very similar, Dr. Lyons at once proceeded by means of an ordinary gum-lancet, or, as he prefers to call it, "*his favourite tonsillotome*," to make a few bold free incisions through the swollen organ by gently raking the instrument two or three times in a parallel direction from behind forwards, and to the depth of about one-sixteenth to one-eighth of an inch through the tissue of the gland. The result of this procedure is invariably to give exit to a considerable quantity of blood, and to allow the escape of the serum, the infiltration of which had caused the principal amount of the swelling which had produced so much distress, dyspnœa, and dysphagia. After the free incision just mentioned, the patient was directed to freely gargle the throat with warm water. The result was, that in a brief period, partly from the escape of blood, and more particularly by the free exit of the serous fluid infiltrated into the tissues of the gland, marked subsidence of the swelling took place, and therewith relief was procured to all the principal sources of distress of which the patient complained. Convalescence was rapidly established in this case.

In commenting on the features of this particular case, Dr. Lyons took occasion to draw the attention of the class to the distinction which he believes to be so markedly observable between the two forms of tonsillitis which so very commonly come under the notice of the practising physician and surgeon—viz.:—

Aphthous Tonsillitis.—This term Dr. Lyons thinks may be applied very appropriately to one of the two common forms of tonsillitis. In this variety of the affection the tonsil is but little swollen; it is red, irritated, patchy in appearance, and here and there covered with buff-coloured spots or specks of yellowish or aphthous matter—a low form of exudative material. This affection is attended with smart sensation of pain and distress on swallowing, often with sharp fever and marked evidence of a

well-developed pyrexial state, including hot skin, quick pulse, thirst, foul tongue, and ultimately copious deposit of urates.

In this form of the affection Dr. Lyons' experience agrees with that of all observers, that the local application of solutions of the nitrate of silver, varying in strength according to the urgency of the case, acts as a sovereign, and quite a specific, remedy. He is satisfied, however, that the singular and almost magic efficacy of the local application in this particular form of the affection has been a source of grave error in another somewhat allied, but in the main wholly different, pathological condition of the tonsil. Dr. Lyons sums up his views by stating that *while Nitrate of Silver is the sovereign* remedy for one—the aphthous variety of tonsillitis—it is not alone ineffective, but highly injurious, in that variety in which œdematous infiltration of the organ demands free incision by the gum-lancet as its natural and only efficient mode of relief.

When the œdematous variety of tonsillitis is once established, the application of caustics in any form, solid or fluid, can, in Dr. Lyons' view, have only the effect of converting a simple œdematous infiltration into an inflammation in which lymph is exuded, and the tissues of the organ become for the time much more intensely inflamed, possibly enlarged, and certainly permanently condensed.

To the enlarged œdematous tonsil the application of caustic gives no relief, but perhaps the contrary, and this is especially seen when both tonsils are enlarged, project towards each other, and perhaps touch, and deglutition and in some cases ordinary respiration is performed with infinite difficulty. To apply caustic, under these circumstances, is but to aggravate the already excessive sufferings of the patient, while leeches, mustard poultices, and blisters are equally ineffective as means of relief to a condition which to the patient seems to threaten immediate suffocation, a result possible, though fortunately rare.

It is in circumstances like those here detailed that the practice of incision of the tonsils, according to Dr. Lyons' views, offers such advantages. Free exit is at once given to a certain amount of blood, free exit is allowed to the imprisoned serum; rapid subsidence of the swollen organs takes place, and deglutition and respiration are performed without difficulty, to the infinite relief of the patient, who has been momentarily fearing suffocation.

As to any possible danger from the operation of incision, it must be remembered, says Dr. Lyons, that, however closely approximate to those important vessels (internal and external carotid and maxillary artery) may be the tonsil in its normal condition as a much flattened organ, it is when enlarged separated from these vessels by the whole thickness of its

own inflamed and infiltrated substance, often reaching the size of a large walnut. Dr. Lyons directs the operation to be performed by carefully raking the gum-lancet (the only suitable instrument for the purpose) from behind forwards; it incises the organ (now perhaps an inch in thickness) to the depth of one-eighth at most of an inch, and exit is given to blood and serum.

If performed sufficiently early, the occurrence of abscess in the tonsil may, in his opinion, be obviated in the great majority of cases, while another and equally important object is accomplished by saving the patient from that condition of chronically enlarged and hardened tonsil, so liable at subsequent periods to attacks of inflammation on the slightest occasion of cold, and which is too often the result of caustic misapplied.

In conclusion, Dr. Lyons observed that the case under consideration well illustrated the other marked features of this somewhat singular malady, in which, with a comparatively slight amount of local disease, marked general pyrexia was so commonly associated, as evidenced by heat of skin, accelerated pulse, nervous derangement, occasional sleeplessness and wandering, and in nearly all cases marked lysis of the diseased state by a free deposit of urates, accompanied by a marked odour of the sweat and breath, with an amount of debility consequent on the disease, which nothing could explain short of a pyrexial act of the system of considerable intensity, and attended by tissue-metamorphosis and waste excretion of no small extent.—*Medical Press and Circular.*

NOTES ON THE TREATMENT OF 123 CASES OF CHOLERA IN THE LIVERPOOL PARISH INFIRMARY, JULY AND AUGUST, 1866.

By J. Wilson McCloy, M.D., &c., Resident Medical Officer at the Liverpool Parish Infirmary.

The following brief record of the treatment adopted in 123 cases of cholera which have occurred in, or been brought to, this institution during the present epidemic, may not prove uninteresting to the profession. "It must be confessed that the means employed were sufficiently various in their nature; and the narrative of their effects may be useful, by inducing caution in the employment of those which have been found inefficient and injurious." I can conscientiously say that each particular mode of treatment received a fair and impartial trial. I shall hereafter have occasion to contrast the relative severity of the cases treated by each method.

The first cases (two) were brought to this hospital on the 10th of July. Both were in the evacuation stage, and were treated with astringents, stimulants, and ice-water. The astringent used was a mixture con-

taining spirits of chloroform, Battley's sedative solution, creasote, and compound chalk mixture. The stimulant was brandy, freely and frequently administered. Ice-water was given *ad libitum*. The symptoms of collapse rapidly set in, and both cases proved fatal: one in twelve, and the other in six, hours after admission.

On the 12th of July the disease unfortunately made its appearance in the foundling department of the institution. This was one of those sporadic, or, at least, unaccountable cases which we occasionally meet with. A nurse in one of the foundling wards, who had not for months been out or in communication with any one from without, was suddenly and unaccountably seized with violent vomiting, painless, profuse purging, and violent cramps in the extremities. The case was considered one of cholera. The woman was removed at once, the place thoroughly disinfected, the bedding, &c., burnt, and the children transferred to a separate ward. This women was treated in a similar way to the former cases, and with the same result, death occurring in twelve hours after admission.

The same night two of the children to whom this woman was nurse, and who slept with her, were seized with choleraic symptoms. They were treated with camphor, according to the "Rubini" plan. Both cases proved fatal: one in six, and the other in eleven, hours.

The following morning four other children, also charges of this woman, were seized. The camphor treatment was adopted, and three cases proved fatal.

From this time till the 26th of July there were 56 entries. Of these, 5 were moribund on admission—dying in from two to seven hours. We have then a total of 51 cases treated up to the 26th ult. Of these 19 were by camphor, 7 by ice, and 25 by what I shall call the "mixed plan." The following are the results:—

Cases.	Mode of treatment adopted.	Deaths
5	(Moribund on admission)	5
19	Camphor ("Rubini" plan)	13
7	Ice to spine, and ice-water	7
25	Mixed treatment	13
56		38

Only seven of these fifty-one cases were in the stage of collapse, the rest were in the evacuation stage. In estimating the value of the camphor treatment it is only fair to state that it was principally pursued amongst a most unfavourable class of patients. I allude to those puny, rough-skinned, pot-bellied, emaciated children, so common in the lower ranks of life, and in the foundling department of work-house infirmaries. Ice to the spine, either alone or alternated with hot-water bags, was mis-

erably unsuccessful. The application did not seem to have the slightest effect in producing reaction where there was any considerable collapse. While the ice-bags to the spine were borne without complaining, a similar application of water at 120° Fahr, caused the greatest pain. The mixed treatment included the use of astringents, sedatives, stimulants, ice, ice-water, the hypodermic use of morphia, hydrocyanic acid, strychnine and camphor, dry heat sinapisms, stupes, &c. The astringent mixture, which was the same as that used in the first cases, speedily arrested the vomiting and purging; but this was not followed by any general improvement. Dry heat and sinapisms proved beneficial. Brandy and ice-water were administered freely.

On the evening of the 26th the castor-oil treatment was first ventured on as a sort of forlorn hope. The following is the history of the first case in which it was used :—

Eilen M———, aged 36, admitted at twenty minutes to seven p.m. Has been ill with diarrhœa for a day and a half. Was treated with astringents and stimulants. Previously a healthy woman. When admitted she seemed in a semi-narcotized condition, from which she was with difficulty roused. Features pinched; expression anxious and fearful; feet and legs blue and icy cold; arms cold and fingers corrugated; forehead covered with a clammy perspiration; eyes sunken and surrounded with a livid ring; voice husky; tongue, lips, and breath very cold; pulse absent in radial, and but very feebly perceptible in brachial artery; neither purging, vomiting, nor cramps; small intestines distended. Ordered sinapisms to stomach and abdomen, and hot bottles to feet and legs. To have an ounce of castor-oil and two drachms of tincture of hyoscyamus at once. Small quantities of water at temperature of room. At a quarter to seven the oil was rejected. To be repeated. Ten minutes past seven; oil retained; to be repeated. A pint of salt and water, at 120° F., to be thrown into the rectum. Half past eight; Purged freely. To have half an ounce of castor-oil. Twenty minutes past ten p.m.: oil retained, Seemed more lively: pulse imperceptible in radial.

July 27th: Quarter past twelve a.m.: Purged twice in last hour; evacuated matter horribly offensive and of an ash-brown colour. She is much warmer and more natural in appearance; pulse feebly perceptible. Oil to be repeated. Ten minutes past three: much better; vomited once and purged twice in the last two hours; forehead warm; pulse distinct in radial: great thirst. To have water *ad lib.* Forty minutes past eight: improving rapidly; pulse moderately good; has been purged once; matter still very offensive; feet and legs warm and natural in colour. To have two drachms of castor-oil. Twenty minutes past eleven: still

doing well; pulse fair. To have small quantities of arrowroot and salt beef tea. Six p.m.: still doing well; has been sitting up in bed in the absence of the nurse.

28th: Greatly improved. Ordered gruel and additional beef-tea, purged once during the night; evacuation more healthy in appearance.

29th: Bowels acted once last night; complains greatly of hunger. To have three grains of sulphate quina three times a day.

30th: Convalescent. Ordered mutton chop.

31st: Going on admirably. Bowels acted once to-day.

August 2nd: To have half an ounce of castor-oil.

4th: Discharged cured.

This was undoubtedly one of the worst cases admitted into this hospital. The recovery was looked upon as miraculous. I could give, did I not fear occupying too much space, ten or twelve other cases quite as bad as this which eventually recovered under the eliminative treatment.

Since the 26th July there have been 67 cases. Of these, 11 were moribund, dying in from ten minutes to eight hours subsequent to admission. This leaves 56 cases, which were thus treated:—

Cases.	Mode of treatment adopted.	Deaths.
11	(Moribund on admission)	11
2	Internal administration of strychnine .	2
4	Astringent and Stimulant	4
50	Eliminative	17
67		34

The two cases in which strychnine was admitted were just in the transition stage between evacuation and collapse. The dose was one-thirtieth of a grain every fifteen minutes, with permanganate of potash and carbonate of soda. The astringent and stimulant treatment was that previously noticed. In the remaining fifty cases I was kindly permitted by Dr. Gee, physician to the hospital, to use castor-oil. With the results I have every reason to be perfectly satisfied. Of these fifty cases, only ten were in the stage of evacuation; and of the remaining forty, nineteen were in a state of the most extreme collapse. I observe in the *Pall-Mall Gazette* of Aug. 4th, a statement to the following effect: "The cholera at Liverpool is evidently subsiding, and, as usually happens in such a time, the larger proportion of recoveries is attributed to the mode of treatment, castor-oil having been substituted for camphor and ice." Now, exactly the opposite of this is the case. *The disease is not subsiding; choleraic diarrhœa is increasing rapidly, and the cholera type is more*

*severe.** It cannot be said that the cases treated on the eliminative plan were milder in character than those treated by camphor, astringents, or ice, for, so far from this being the case, I can most unhesitatingly affirm that they were not only *more severe in character*, but were not, as a rule, prescribed for until collapse had for some time set in. Of the seventeen deaths, two occurred from pneumonia during convalescence; two were cases which had been discharged cured, and were suddenly seized with a relapse; and nine were cases in which there was no radial pulsation, *and in which neither emesis nor purgation could be produced.*

Eight post mortem examinations were made, and as I consider the results important, I may be excused for giving the particulars of one case in detail.

Case 1.—Maria W——, aged 40, admitted July 31st, at thirty-five minutes past twelve a.m. Has been ill for twelve hours; was seized suddenly with vomiting and purging. On admission was in a state of the most extreme collapse; algide symptoms very intense; temperature in axilla 96°; almost complete aphonia; pulse feeble and faintly perceptible in brachial artery; great thirst; upper extremities covered with cold, clammy perspiration. To have hot bottles to feet and body, and sinapisms to abdomen and calves. Ordered three drachms of castor-oil, two drachms of syrup of lemon, and fifteen minims of chloric ether every hour; hot solutions of muriate of soda and chlorate of potash to be thrown into rectum every hour.—Two a.m.: oil retained; neither purging nor vomiting has taken place.—Half past three: oil still retained; not purged. Three minims of croton-oil rubbed on tongue; friction with croton-oil over abdomen.—Five: injections returned; no improvement. To continue with oil.—Half past ten: no improvement; no purgation.—Twenty minutes past twelve p.m.: no improvement. Seen by Dr. Mapother of Dublin.—Twenty-five minutes past two: on improvement; no purging. Intestines stimulated by galvanism, which produced slight vomiting and purging.—Five: no improvement; no purgation.—Ten: has been continuing in the same state; power of deglutition lost.—Half past eleven: venesection resorted to; blood refused to flow. Heart stimulated by galvanism, when a few drops of tarry-looking fluid exuded from right arm.—Forty-five minutes past eleven; died.

Autopsy eight hours after death.—Vessels of the right side of the heart and pulmonary artery distended with dark blood; left side nearly empty, containing only a few coagula. The lungs on their peripheral portion were pale and exsanguineous; from the central portions a small quantity of thick, dark blood exuded on section. Hepatic veins and capilaries of

* A reference to the reports of the Medical Health Officer will settle this point.

vena porta full. Gall-bladder enormously distended. Duodenum almost empty. Stomach contained a large quantity of castor-oil; mucous membrane presented towards pyloric end œdematous patches. Peyer's and the solitary glands greatly enlarged, presenting a salmon-roe appearance. Peritoneal coat of small intestines pale, except towards lower part of ileum, where it was of an olive-green colour; this part was full of a remarkably fetid fluid, having a resemblance to bad pea-soup; the mucous membrane of this part was softened and thickened. Colour pale on peritoneal and mucous surface and nearly empty. Kidneys and spleen natural. Vascularity of brain and meninges slightly increased; structure, so far as I could judge, normal. Arytenoid and epiglottidean muscles livid, and dotted with minute ashy specks.

Case 2.—A man, aged 50. Symptoms on admission similar to last, as were almost also the post-mortem appearances. In particular, the similarity in appearance of the small intestine and its contents was noticed. In four other cases I found almost identical appearances. This condition of intestine, when taken in conjunction with the fact that in none of these cases could purgation be produced, I consider of the greatest pathological significance.

General remarks—The method of administration of the castor-oil was, in the majority of cases, that advised by Dr. Johnson in his work on "Epidemic Diarrhœa and Cholera." I have found in nearly every instance a wonderful tolerance of this medicine. The most difficult point in the whole treatment of the disease I believe to be that connected with diet, more especially during the stage of convalescence. From want of proper attention to this point I believe four cases relapsed, two of which died, and two recovered under the castor-oil treatment. From having watched the effects of alcoholic stimulants in collapse, I am of opinion that they invariably diminish the force and frequency of the pulse, and augment the symptoms arising from pulmonary obstruction. Thermometry, so far as I could judge, afforded no measure of the intensity of the collapse. In every case the temperature of the body rose one or two degrees after death. The "rice-water" evacuation has not been at all a characteristic symptom. The discharges presented every variety in appearance, the peculiar character of the voice, the *facies choleritica*, and the incessant thirst, have been the best marked and most characteristic signs. While in many cases the attack came on suddenly and unaccountably, in the majority there were "premonitory diarrhœa" and abdominal uneasiness. The cases have been of every degree of severity. The disease, as a rule, has only occurred in the low-lying districts, where the unhygienic conditions connected with food, filth, misery, overcrowding,

and intemperance, exist notoriously. *The eliminative treatment has been most successful.* It has been a success which those only who have seen and compared the relative severity of the cases can appreciate—a success which statistics cannot show.—*Lancet.*

Liverpool, August 6, 1866.

TUBERCULOSIS. AN ABSTRACT FROM VIRCHOW'S KRANKHAFTEN GESCHWÜLSTE.

By Francis Delafield, M.D., New York.

One of the greatest of living pathologists has definitely formulated his views concerning that most difficult subject—tuberculosis. No English translation of his work has yet appeared. This short sketch of his treatise may be of interest.

The lymphatic glands consist of cells, the so-called lymph cells, contained in a fine reticulum of connective tissue, and arranged in follicles divided by fibrous sheaths. These follicles may form large masses, as in the thymus, the tonsils, and in Peyer's patches; or they exist singly, as in the solitary intestinal glands, and the malpighian bodies of the spleen. The essential element is, in all cases, the cells.

There are two groups of tumors analogous in structure to these lymphatic glands. First, hyperplastic growths of already existing glands; second, heteroplastic growths of the elements of glands, where none such normally exist. To the second of these groups belong tubercles. There are two words which have been so loosely used in connection with tubercles, namely, scrofula and struma, that it is necessary, at the outset, to define them.

Scrofula is the literal Latin translation of the Greek chœras, which is found in Hippocrates. Both expressions signify a young pig (scrofa, χοιρος). The older writers derive the name from the fact that the swellings are as numerous as a sow's young; or that swine suffer from this disease; or that swine have necks containing many glands; or that an affected neck assumes the shape of a swine's. The Latin word, however, was little used by the ancients, and the expression "scrofula" has only been generally used since the time of Cullen and Hufeland.

The word struma is found in translations of Greek authors, and in Celsus, as a parallel expression to scrofula, often with exactly the same meaning. This original use of the two words as synonyms has been reproduced by modern English writers, who express by "strumous" what continental writers call "scrofulous," or "tuberculous." French wri-

ters use the word struma very little. German authors, on the other hand, express by struma, tumors connected with the thyroid gland, and by scrofula, tumors connected with the lymphatic glands. This use of the words will be here retained. Scrofula, however, is here used to express not a mere swelling of the lymphatic glands, but a peculiar condition of the constitution, which causes the lymphatic glands to be unusually vulnerable to any irritating cause, and indisposed to healthy reparative action. This condition can be explained in part by an unusually rich development of the lymphatic organization, in part by a weakness of particular parts or regions. This weakness is caused by a certain imperfection in the organization of the glands. Such a constitution may be hereditary, or may be produced by insufficient and bad nourishment, foul air, etc.

The word tubercle had originally nothing to do with any special process, but merely expressed the shape of some particular local growth, or was even used as a synonym for processes of the bones. So it was applied to tumors of the most diverse natures, syphilitic, cancerous, bony and fibrous, as a simple descriptive term. The word first began to be used in its modern sense at the end of the last and the beginning of the present century, at the time when more accurate anatomical investigations of lung diseases, especially by Baillie and Bayle, were undertaken.

Careful post mortem examinations of morbid lungs revealed a variety of conditions, which were called by various names: tubercula, struma, scirrhoma, steatomata. Two forms of phthisis were distinguished, one resulting from pneumonia and catarrh, the other from tubercles. The tubercles were considered to be diseased glands. Attention was called to the many points of resemblance between tubercles of the lungs and scrofulous glands, and hence was evolved the doctrine of the identity of scrofula and tuberculosis, a doctrine held by Von Swieten, Morgagni, Cullen, Portal, and Hufeland.

The exclusive examinations of the lungs, however, and the regarding them as a standard of tuberculosis, led to confusion. Laennec, especially, investigating as a specialist, and considering phthisis as a unity, confounded together a number of totally different conditions, and his great authority has influenced nearly all subsequent investigations. His followers held the cheesy material as the diagnostic sign of tubercles. Even those who, like Lebert, declared against the identity of scrofula and tubercles, considered the cheesy condition of a gland as a diagnostic sign of a tuberculous process. This chessy material has been the source of numberless errors. It must be borne in mind that it is no specific material, but is simply dead tissue, and may be the last stage of various morbid proces-

ses. Any reasonings which regard this dead material as the essential part of tubercles must end in error. Thus, Broussais and Cruveilhier considered tubercles as the result of an inflammatory process, and originated the doctrine of tuberculous inflammation. It is absolutely necessary to hold fast the non-identity of the original processes, and to overlook the identity of the metamorphosis which the tissues can undergo. Then it becomes possible to make the essential distinction that tuberculosis, in opposition to scrofula, is the production of heteroplastic, lymphoid new growths in regions where they do not belong.

The true tubercle has no essential connection with inflammation. Whether its growth is, or is not, attended by inflammatory processes, its character remains the same. It is, however, undoubtedly of an irritative nature, and it is even right to speak of a tuberculous inflammation.

Though tubercles are to be considered as distinct from scrofula, it is necessary to admit their near relationship. Tuberculosis may even be regarded as a heteroplastic scrofula, for the frequent occurrence of both conditions in the same person is otherwise difficult to explain.

There have been various views in regard to the relation between tubercles and the products of inflammation. First, that tubercles are the irritating cause which produce the inflammation. Second, that both tubercles and inflammatory products are formed from a simultaneous exudation. Third, that tubercles are produced from the inflammatory products. The first and last of these views are founded on fact, and can be proved by observation. The second view, that of a tuberculous exudation, was originated by Magendie, and supported by Rokitansky and the Vienna school. They held that the specific material was exuded from a morbid blood, and cited the existence of the well known cheesy material in the alveoli of the lungs as proof. The result of their reasoning and mode of investigation was that the real tubercles of the lung were overlooked. And under the name of gray granulations, in the lung and arachnoid membrane, they have been described by Robin as something new and distinct.

It is in the lungs that the cheesy material has caused the greatest confusion of ideas. After a chronic pneumonia or bronchitis, the alveoli and small bronchi are left filled with the products of inflammation. These thicken, degenerate, and become cheesy; there results what has, since Laennec, been called "tubercular infiltration," but is really a cheesy hepatization. This cheesy material may be found in miliary form, in circumscribed deposits; or involving entire lobes. True tubercles of the lungs arise always in the walls of the air passages, and are not secreted in their cavities.

To avoid confusion, it must be remembered that tubercles exist in various stages of growth and decay, and vary somewhat in different organs. A description, therefore, true of one stage, may be quite false of the others.

The true tubercle is organized, if not vascular: that is, it is composed of living cells. It arises from connective tissue, bone, fat or marrow. It is, therefore, best studied in those parts which are composed of the simplest tissues, such as serous and false membranes; next, in glands with a well defined stroma, as the liver and kidney; with the greatest difficulty in organs, like the lung and brain, of a complex structure.

The young growth looks at first like fresh granulation tissue; it contains very soft, fragile cells and nuclei. These cells are the true tubercle corpuscle, which is not a mere nucleus nor a solid body. They resemble essentially the lymphatic gland cells, are round, and vary in size from a little smaller to three-fold that of a white blood corpuscle. The cell body is colorless, transparent, a little granular, and easily broken by pressure or the addition of water and reagents. The nuclei are small, homogeneous, shining, contain nucleoli, and number from one to twelve in a cell. Between these cells is a small, net-like arrangement of connective tissue fibres, and sometimes vessels. The latter are usually not new, but belong to the old vessels of the part.

Lebert's tubercle corpuscle is no original element, but a production formed from cheesy metamorphosis. It can be found not only in dead tubercles, but in pus, scrofulous glands, cheesy hepatization, and carcinoma, after they have undergone the cheesy transformation. It has, therefore, no diagnostic worth whatever.

The young tubercle is a true neoplasm—arises not from an exudation, but from proliferation of existing tissues, or from newly formed connective tissue.

The cellular arrangement of tubercles is repeated in all parts where they reach their acme. But in many regions the acme is never reached, especially in firm, fibrous tissues, and newly formed connective tissues. Here a large part of the tubercular tumor consists of thick connective tissue, whose cells are numerous and contain several nuclei, while only in the centre is a riper growth found. When such a tumor becomes older nothing will be found but a fatty, granular centre and a shell of connective tissue—no cells.

After the first development of tubercles their regular course is to the cheesy transformation, but fatty degeneration, with or without resolution, may also take place. This cheesy transformation begins at the oldest part of the deposit, generally the centre. After the cheesy stage

comes that of softening, which also first attacks the oldest portion. In tubercles growing on surfaces, however, the oldest portion is the middle of the surface, and not that of the entire growth. Those who suppose softening begins at the periphery have only observed conglomerate masses, or non-tubercular cheesy deposits. The softening is not the result of the tubercular mass causing inflammation and suppuration of the surrounding tissues. It is a purely chemical process, unconnected with suppuration. The debris of tissue, which form the cheesy mass, separate into smaller and smaller elements, and may even change to a fluid form.

If the softened tubercles are near the surface, as in mucous membranes, there follows ulceration. This takes place through the simple separation of the softened mass, without any suppuration. But as the softening is usually only partial, the bottom and walls of the ulcer are still formed of cheesy material, which gradually also softens and separates, until there is left an ulcer no longer tuberculous, though caused by tubercles. Not until it has thus become a simple ulcer does it secrete pus. These ulcers can be best studied in the bladder. After the separation of the tuberculous matter, the ulcer may cicatrize, but this is seldom the case. More often new growths form around and under the ulcer, and the morbid process is constantly beginning afresh. The so-called infiltration is formed when a number of deposits are situated near each other. Through their confluence is formed a continuous, homogeneous, cheesy conglomerate. In mucous and serous membranes, through such a confluence of miliary tubercles results a thick, yellowish white, dry, layer, which covers the entire surface, like a diphtheritic membrane. If this takes place in the walls of a tube like the bronchi or ureters, it may even obliterate their canals; and if the mass afterward softens, it will appear like an exudation in the cavity of the tubes.

Large tubercular masses are best studied in the brain and spinal cord. There it can be seen that the mass is formed of lamellæ, and that the growth takes place by the apposition of new gray tubercles, and not of cheesy material.

In the lymphatic glands, there exists a tubercular growth arising from their connective tissue. The glands usually inflame and hypertrophy at the same time. The growth begins as small, grayish spots, in greater or less number, but does not always affect the entire gland. The gland tissue proper becomes soft, reddish gray, and succulent. The gray spots become larger, firmer, harder—and, finally, cheesy. Afterwards the mass may soften. Tuberculosis of the glands is nearly always secondary to that of neighboring organs.

The spleen is one of the favorite seats of tuberculosis. On the other hand the tonsils, the salivary glands, the pancreas, the muscular system, excepting the heart, the thyroid gland, the mammary glands, and the ovaries, show an unaccountable indisposition to take on his process.

The testicles are strongly predisposed to tubercle. The existence of syphilitic growths and of chronic inflammatory processes renders their diagnosis obscure. The anatomical diagnosis of the inflammatory process is not difficult. The gummy tumors are to be distinguished by their situation in the body of the testicle near to-the tunica albuginea, while tubercles usually begin in the epididymis. The tubercles always arise from the connective tissue, and never the epithelium.

In bones, tuberculosis usually arises from the marrow, especially in the spongy bones. The vertebræ and the ends of the long bones are its favorite seat. The process usually takes the form of an osteomyelitis tuberculosa, though in young children a simple formation of tubercles occurs. The yellow marrow first becomes red, then are formed small, grayish granulations, at first scattered, later, grouped together. The surrounding marrow is hyperæmic. Later, these granulations become cheesy, run together, and there result opaque, yellow masses, which contain the detritus of the surrounding tissues. These partly cellular, partly dead masses fill the medullary cavities. At the same time the bones thicken. After a certain time the bone tissue itself is affected, and this may take place in two ways. First the bone tissue changes into soft granulation tissue, in which miliary tubercles grow; or, secondly, the bone surrounding the cheesy masses necroses, especially in the spongy bones. There results a form of caries. Around such dead portions of bone arises a secondary inflammation and suppuration; hence are formed abscesses, which seek the surface by fistulous openings.

In Pott's disease of the spine, the causes may be either such a tubercular process, or more often a true inflammation and suppuration of the bone—osteomyelitis scrofulosa.

If we now consider tuberculosis as a whole, we will notice two characteristics: its heteroplastic formation, and its inclination to multiple eruptions. Both these qualities seem to imply a dyscrasic cause, and the doctrine of a tubercular dyscrasia, or diathesis, has been widely taught and believed. Hence, also, arose the question as to the exclusion and combination of tubercles with other diseases. It may be safely asserted that there is no exclusion of tubercle against other diseases, only against certain organs and tissues. But it never forms part of a mixed tumor. This question loses its interest when tubercle is considered, not as an exudation, but as a new growth.

But now we must ask, whence and how does this growth arise?

It can be definitely stated that connective tissue and its allies are always the matrix. The attempts at determining the cause of the new growth by experiments on animals have proved very unsatisfactory. It is doubtful if true tubercles even exists in them. No one has yet succeeded in forming tubercles by experiment.

There is certainly a local vulnerability and a local immunity of organs. In general, organs normally containing lymphatic elements are those most predisposed to the disease, but there are exceptions which cannot be explained. Also there is a vulnerability and immunity of individuals.

Tubercles are a disease of extra-uterine life; they are hereditary, but not congenital—hereditary not as a disease, but as a disposition. It is probable that not only tubercles, but also syphilis, scrofula and other diseases of parents may cause a predisposition in their children.

The tissues are the carriers of this predisposition, and the younger they are so much more easily is their disposition excited. A disposition to tuberculosis indicates always a disposition to inflammation. Childhood and youth are especially prone to the disease. The fact that in the same family one child is attacked by tubercular arachnitis, another by tubercular osteomyelitis, a third by tubercular laryngitis, does not prove the existence of a dyscrasia, which breaks out now in one organ, now in another. It rather shows that different exciting causes affect different regions, all having the same predisposition. The predisposition is not only hereditary, but is produced by all causes which debilitate the general system.

Tubercle resembles malignant growths, in that it infects neighboring tissues. Thus, in mucous membranes and in other organs, the original growth causes the formation of new growths in its neighborhood. There is also found a secondary tuberculosis, of the glands, as in the mesenteric glands after intestinal tuberculosis, and in the bronchial glands after tubercular bronchitis. Metastases in distant organs also are produced.

The contagiousness of tubercles or their inoculability has not yet been demonstrated.

It seems probable that tubercles may be at times epidemic. It may be that, as with plants, so with tumors, certain seasons of the year produce an increased growth. These questions require further study.

The indications of treatment are: When possible, extirpate the tuberculous mass early, as in the testicle, the glands, the bones, and joints. When this is not possible, we must, first, fight against the predisposition by every means which will improve the general health; and, secondly,

carefully avoid all irritating causes, for a slight catarrh or inflammation of no moment in a healthy constitution, in one disposed to tubercles brings a new growth in its train.—*New York Medical Journal.*

BROMIDE OF POTASSIUM IN THE TREATMENT OF ACUTE GONORRHŒA.

By Wm. H. White, M. D.

Nocturnal erections, with severe and frequent attacks of chordee, are the most annoying and distressing symptoms of this disease or of urethritis. Indeed, it is the principal difficulty—preventing sleep, and often exciting the most horrid alarm and forbodings, requiring repeated applications of cold, and the use of opiates to allay the intense pain and mental suffering. The state of morbid excitement is a reflex nervous action, produced by the irritating nature of the gonorrhœal virus, and consequent inflammation of the mucus membrane of the urethra. Where the inflammation is beyond the secreting point, then it is that these painful erections are the most troublesome. Very seldom is the patient startled, or given any undue alarm or pain, soon after a copious discharge has made its appearance.

The *bromide of potassium* possesses peculiar anesthetic properties, especially in controlling reflex nervous action, and in producing local anesthesia. It has been successfully employed in the treatment of spermatorrhœa, and for allaying or destroying the desire of the masturbationist for self-Pollution, subduing sexual desire, soon relieving, and, in time, entirely removing the troublesome disorder of nymphomania, by the complete suspension of the former uncontrollable passion, and in producing local anesthesia of the fauces—sufficiently so, to allow the laryngiscope to be used without exciting a tickling sensation or nausea.

Prof. Bache quotes a number of European authorities in his latest edition of the United State dispensary, all of whom indorse its antiaphrodisiac properties, and its powerful effects in controlling local irritability, applicability to the speedy relief and successful treatment of inflammatory and irritable condition of the genito-urinary organs.

Stillé says, "men of vigorous constitutions, accustomed to daily erections of the penis, found that they ceased while taking the medicine, and for several days, even, after its use had been discontinued."

In the experiments made by Horing and Glover, upon dogs confined in an atmosphere filled with vapour of this substance, profuse secretion from the eyes, nostrils and fauces was excited, and when carried to poisoning, nausea, vomiting, exhaustion and death. To a certain extent,

this same effect is noticeable in patients while under its influence, to which, no doubt, in a measure, is due its pleasant action over nocturnal erections, by keeping the mucous membrane softened, actively secreting and discharging. It also increases the flow, quantity, and probably augments the watery element of the urine, and consequently reduces its fiery nature. The dose required to produce a proper physiological operation displays no effect inconsistent with the end desired in the treatment of gonorrhœa. Its action being exceedingly happy in slowly, but surely overcoming exalted susceptibility of the nervous centers, and more especially where there is a susceptibility to a reflex action; therefore, its peculiar adaptation to the morbic action caused by this disease. This palliative influence is evidently owing to its positive anesthetic, indirect narcotic power, and direct sedative action. In all probability, it is in this manner that it becomes so useful an adjuvant in the treatment of all stages of this disease. While it overcomes the pain and anxiety, with the addition of sleep, it will not alone eradicate the complaint, and must not, and cannot be entirely depended upon, any more than could opiates, or the anesthesia from chloroform. For the time, relief is obtained, but the disease and its causes continue. Where a case is presented in first developement, I would suggest its use in doses from five to eight grains three to six times during the succeeding twenty-four hours, dependent upon the constitution, low, medium or high grade of inflamatory condition, with saline cathartics to an extent sufficient to freely move the bowels, with rest and cooling application to the parts, and low diet. When the heat , acute pain and excitability is reduced, then it should be continued with some of the stimulating diuretics, with occasional mild astringent injections. The following I used with most satisfactory results ; or in the same proportions where there was no symtom absolutely forbidding their immediate or continued use.

Bromide of potassium, three drachms; aqua pura, spts. lavender, co. a a, one half ounce ; bal. copaiba, fluid ext. buchu, sweet spts. nitre, a a, one ounce.

A teaspoonful five or six times daily, with an occasional mild injection of nit. ag ; act. plumbi ; reduced tinct. of kino, tinct. catechu, etc.— *Memphis Med. Surg. Monthly.*

CASE OF HÆMORRHAGE FROM THE RECTUM.

By George W. Balfour, M.D., F.R.C.P.E.

On the 17th of March last, I was requested to see a young man, aged 21, formerly robust and healthy, never having had a day's illness, but now feeble, anæmic, and confined to bed from pure debility. He stated

that he had just returned from London, having been unable to keep his situation there from continually increasing weakness, that for six months past he had lost blood daily at stool, and this drain was, so far as he knew, the sole cause of his debility. I ascertained that he had only one stool every day, in the morning, but that after it a quantity of bright red blood, amounting usually to about two ounces, escaped, and coagulated in the pan; the stool was rather small for a man of his build. He had no piles, either external or internal, and there was apparently nothing to account for this debilitating hæmorrhage. I requested my friend Mr. Annandale to see him with me on the 23rd; he made a most careful examination of the rectum, but could discover nothing wrong, either internally or externally, except a slight natural—by no means spasmodic—stricture of the sphincter. Recalling to my mind the interesting observations made by Mr. Syme on hæmorrhage from the rectum in his "Clinical Observations on Surgery," Edin., 1861, and in particular the remarks he has made at p. 85 upon this apparently natural peculiarity as one cause of such hæmorrhage, Mr. Annandale proposed to divide with a bistoury the mucous membrane of the bowel, with a few of the internal fibres of the sphincter; this was accordingly done at once, and a piece of lint put between the lips of the wound. My patient's bowels were moved the next day without medicine, and—with the exception of a streak or two from the wound—without hæmorrhage for the first time for six months. In the course of a few days the little wound was entirely healed, and a satisfactory stool continued to be passed without any blood till the 13th April, when a teacupful of blood was passed immediately after his stool. On the 14th a similar quantity of blood was passed in a similar manner, and I asked Mr. Annandale to see him with me next day. On the 15th a mere trace of blood was passed along with the stool, and on a careful examination by Mr. Annandale the incision was found perfectly healed, and everything else normal. Mr. Annandale then informed me that Mr. Syme had occasionally observed a slight recurrence of the hæmorrhage at irregular intervals after the performance of this operation in similar cases, these hæmorrhages, however, having no detrimental influence on the ultimate success of the operation, and he suggested that such might be the case in regard to this patient. I am glad to say that this has been the actual result, and that my patient has, up to this date (June 12), had no recurrence of hæmorrhage, that his health is now completely restored, and that he is prepared to return to business, with his strength perfectly renovated.

No explanation has been ever attempted to be given of this remarkable peculiarity, this curious dependence of hæmorrhage upon a conformation

so slightly abnormal. It is difficult, indeed, to see how this remarkable phenomenon could be explained, and it is indeed fortunate for our patients that no explanation is required. The practical sagacity of Mr. Syme has empirically solved the difficulty, and placed in our hands a remedy at once simple, easily applicable, and successful, and I have much pleasure in recording, for the benefit of other sufferers, so remarkable and successful an instance of such a simple cure for an affection so debilitating, and so certain, if unrelieved, of proving ultimately fatal.

18, Lynedoch-place, Edinburgh.

Midwifery and Diseases of Women and Children.

Dr. William Kennedy, of New Orleans, reports the following extraordinary case in the Southern Journal, expresses the opinion that the fœtus could not have been more than one hundred and forty to one hundred and forty-five days old at birth.

EARLY VIABILITY OF THE FŒTUS—EXTRAORDINARY CASE.

In 1845, Mrs. A. B., primipara, suffered, as she thought, during one whole night with colic. I saw her next morning, when I recognized that she was in labor, which had progressed so far that I made no attempt to arrest it. Within a half hour after my arrival she gave birth to a fœtus: it was not more than eight inches long, and was as red as a piece of raw beef. True dermoid tissue could not be said to be organized, its general investiture being so delicate a membrane, as it were, that the eye could look through it on the tissues beneath. The eyes were still closed; there were no traces of cilia or supercilia; its chest was about two inches broad; the arms and legs were very slender, and the toes and fingers devoid of any traces of nails. The head was about the size of a small orange. The respiration was so feeble as scarcely to be perceptible, and not a sound was uttered after birth. I was almost afraid to handle it, as I could not divest myself of the idea that the slightest pressure of the fingers would thrust them into the soft, red, jelly-like mass before me. When I raised it from the couch, and laid it in the length of my left hand, the head lay on the convexity of my flexed fingers, the chest and breech in the palm and the feet reached almost an inch beyond the wrist.

I wrapped it carefully in batting, and carefully attended to maintaining a proper surrounding temperature. It was fed drop by drop with sugar and water every four or five minutes; and later, when the mother could

supply it with milk, half a teaspoonful was given every half hour or hour. Within three weeks afterward it had a mild attack of trismus. During treatment I gave it frequent baths in a tumbler. The period of infancy was one of the most stormy I ever saw. Hydrocephalus, cholera-infantum, measels, diarrhœa, are some of the many affections it suffered from during that time up to three or four years of age. When last I saw him he was a fine healthy boy of twelve years, and gave promise of a vigorous manhood.

I should have been pleased to have furnished a more accurate account of this case. The importance of the subject demands it. But my note book, carefully preserved during many years of arduous practice, and which I hoped in my declining days, to make useful to my brethren, through the medium of the press, has, like my library and every vestige of houshold material, passed from my possession under the ruthless hand of destructive war.

Chemistry and Medical Jurisprudence.

THE DETECTION OF BLOOD-STAINS BY THE MICRO-SPECTROSCOPE.

The trial of Robert Coe for the murder of John Davies, at Aberdare, is remarkable, says the *Pharmaceutical Journal*, as the first case in which the micro-spectroscope has been employed to furnish evidence of the presence of blood-stains. The following is Dr. Herapath's evidence:—

Dr. Bird Herapath sworn: "I am a fellow of the Royal Societies of London and Edinburgh. I practise as an analytical chemist and also physician. The hatchet produced was given me by Mr. Wrenn, and I carefully examined it. On the metalic portion I did not find any marks upon which I could rely. I removed the handle and experimented on thin slices of wood which I took from underneath the metallic ring. I examined those sections with a microscope, and found the majority of the stains were due to oxide of iron; some of them showed clotted blood; in some cases the woody portions had been infiltrated with the colouring matter of blood changed by the action of water. On some of the sections of the handle I found globules of blood, and by the micrometer I measured the size of those globules. I placed a section of the handle in a glass cell in which there was a fluid medium, and the blood-globules floated off into the cell, and by the measurement of these I could determine the size of the globules therein contained. These globules were exactly the same size as some globules from dried human blood which I purposely pro-

cured, and tested with the same apparatus in the same way. Finding this evidence of blood to be small, I obtained more numerous sections of the coloured surface of the handle of the hatchet, immersed them in distilled water, and obtained thereby a slightly coloured solution, which after filtering was ready for chemical tests, and for optical examination by the micro-spectroscope. I subjected this fluid to the action of light, and it held undoubtedly the properties peculiar to a solution of blood. When a solution of blood was examined in this instrument (instrument here produced) the fluid absorbed some of the rays of light, and thus altered the spectrum or rainbow. Within the green, and on the border of the yellow rays two dark absorption bands were produced by the blood fluid. Only one other substance would produce two dark bands—that is cochineal dissolved in ammonia, but the position of the two bands was different. The spectroscope alone would not enable me to *readily* distinguish between the two, but combined with chemical examination it would satisfactorily do so. From this optical test I was satisfied that the sections of the hatchet had been stained with blood, and by chemical analysis I also demonstrated it was blood. The combination of the three tests showed that the substance on the hatchet must have been blood."

Cross-examined: I should not like to say that the stains were those of human blood, but my opinion is that they were.

NEW METHOD TO OBTAIN SULPHURETTED HYDROGEN.

The *Scientific Review* states that sulphuretted hydrogen gas, which for experimental purposes is usually obtained by means of sulphuret of iron, may be procured more conveniently, and in a state of greater purity, by the use of sulphuret of calcium. The latter is formed very easily by mixing uncalcined powdered gypsum with one-fourth of its weight of calcined gypsum, and powdered pit coal equal to one-third of the whole of the gypsum used, and working up the mixture to a stiff dough with water; next forming it into pieces four inches long, two wide, and one and a half thick, sprinkling them with powdered coal, and drying them, then placing them with coke in a wind furnace, and keeping them at a very high temperature for two hours. When cold, they will be found externally to consist of oxysulphuret of calcium, but internally of pure peach-coloured sulphuret of calcium, which may be broken in pieces about the size of nuts, and preserved in well-stoppered glass bottles. If water is added to these, and then sulphuric acid in small quantities at a time, sulphuretted hydrogen is given off with great uniformity.—*The Chemist and Druggist.*

EMPLOYMENT OF HYDRATED SILICATE OF MAGNESIA AS A SUBSTITUTE FOR SUBNITRATE OF BISMUTH.

A distinguished physician of Laval, M. Garrand, struck with the high price of subnitrate of bismuth, its occasional inefficiency and its more rare disadvantages, which he attributed to the temptation afforded by the high price, to fraud and adulteration, conceived the idea of substituting for the salt of bismuth a somewhat analogous subtance, as tasteless, insoluble, and very common in the district where M. Garrand resided, and which was then the seat of an epidemic of very refractory choloraic diarrhœa.

The substance is no other than the matter of which meerschaum pipes are made; in scientific language, it is the hydrated silicate of magnesia, probaly a silicate of magnesia and lime, but has never yet been analyzed.

This substance is reduced to a fine powder, which is sold by M. Grassi at a centime the gramme—au enormous reduction from the price of the subnitrate. M. Trousseau has been in the habit of giving the powder prepared by M. Grassi exactly as he gave subnitrate of bismuth, in doses of four, eight, or ten grammes a day suspended in water; and the numerous cases of diarrhœa in which this new and very inoffensive medicine has been administered, have experienced a rapid diminution of the intestinal flux. Experience suggests that this powder, which acts without doubt as its analogue by its absorbent power, ought to replace it in all its uses—injections for rectum and urethra, &c. &c.—*Jour. of Pract. Med.*

MEDICAL NEWS.

Dr. Owen Rees has no faith in the treatment of diabetic patients by a restricted diet (*Lancet*). They do better, he says, on a natural diet. Saccharine and amylaceous food is as necessary to them as it is to the healthy. More than this, abstinence from these foods is injurious to the diabetic. The circulation of sugar in the blood does not produce bad symptoms. It is true that diabetics have lived many years, and comfortably, on restricted diet; but there is no proof that they had to thank the diet for this. "I have now," he adds, "had long experience in diabetes, and have resolved never again to countenance the strict dieting, which has been so vaunted as necessary to the well-being of diabetics."

During the late German war, a Professor of Chemistry, desirous of preventing the inroads of the soldiers into his laboratory, managed so as to have an incessant supply of sulphuretted hydrogen gas issuing from its portal. It is said that the invaders forced the door no less than sixteen times, but the horrid fumes which issued effectually prevented all ngress and capture of the instruments and apparatus.

Canada Medical Journal.

MONTREAL, SEPTEMBER, 1866.

REPORT OF INSPECTORS OF PRISONS AND LUNATIC ASYLUMS.

We have received the report of the inspectors of Prisons, Asylums, &c., for the year 1865, and we must protest against the continued neglect of this section of the Province in the matter of an efficient asylum for the insane. On a recent occasion we visited the Asylum at St. Johns, and were much struck with the apparent success of the Superintendent, Dr. Howard, in making the most of the miserable accommodation afforded him. The cells are small, ill-ventilated, and in the winter season must be in a most unwholesome condition, Dr. Howard exhibits the greatest administrative ability, and we feel convinced that were his claims fully recognised, and an asylum worthy of the name placed at his disposal it would be second to none in the Province.

We have again and again written on the subject of the positive want of an asylum for this district; the urgent necessity is freely admitted by our executive, and why delay is still permitted in carrying out this requirement, we are unable to imagine.

We have on a former occasion written concerning the Beauport Lunatic Asylum, and we believe that our strictures did good. There was no desire on our part to get up an outcry against that institution or its enterprising proprietors. In the course of the past summer we visited that asylum, and certainly we were agreeably surprised at the extent of the buildings and grounds. Cleanliness reigned in every department; but then in an asylum for the insane, the utmost caution in this respect becomes a necessity, which cannot for one moment be relinquished. The associate dormatories are large and possess ample cubic space. The corridors, day rooms and refectories are all that can be desired; and in the rear of the building, there are large play grounds where all sorts of amusements abound. We are not in a fault-finding humour, but we do think it a pity that the new building was not placed on the top of the hill, about 60 or 80 yards in rear of its present site; but perhaps good and sufficient reasons exist why it was placed where it stands. As we before said, the

Beauport Lunatic Asylum is no longer what it was at the time of our controversy with Dr. Douglas; we observed in the old building some of the cells had been enlarged; we believe what formerly constituted two cells is at the present day one; with regard to the cells themselves, they open into corridors, receiving their light and air from the latter; this may be regarded, and is without question faulty in principle. The Inspectors in their report advise the establishment of insane Hospitals for the treatment of curable cases, and have other establishments for the maintenance and care of incurables. So long as these unfortunates are forced to undergo a certain probation of prison life before removal to an asylum, so long will the cases of incurables augment to an alarming degree. The disease insanity is at the outset amenable to treatment, with every hope of a successful issue. In proof we can adduce numerous instances, among the better class, where those thus afflicted have been sent without delay to asylums in the United States, and the most happy results followed judicious treatment and isolation. The necessity of guarding against the abuse of establishments of this character will be freely admitted, but the incarceration in an asylum, of an individual not really insane, is a result which we regard as extremely improbable; and we think that society is over-scrupulous in offering such opposition to the speedy care of those afflicted, without having gone through a certain routine to enable them to be legally sent to an institution for which they are alone fitted.

Under the heading Asylum Accommodation, we notice in the Inspectors' report, that they point out the urgent necessity of increased room, not in any one asylum, but in the system of asylum buildings.

"The Inspectors have frequently taken occasion, in former Reports, to point out the pressing need of increased accommodation for the insane in both Upper and Lower Canada. In their Report for 1864, they devoted a special memorandum to this very important topic. In reverting to the matter this year, the Inspectors have great pleasure in calling special attention to the remarks contained in the Report of the Superintendent of the Provincial Lunatic Asylum. Dr. Workman discusses this large and difficult question in all its bearings—social, medical and economic—with his accustomed force and practical ability.

"It may be remembered that in their Report for 1864, the Inpectors strongly recommended—

"1. The completion of the Provincial Lunatic Asylum at Toronto, by the construction of the wings, etc., as proposed in the original design.

"2. The completion of the Rockwood Asylum, with exception of certain wings not then commenced; and—

"3. The building of a new and large Asylum for the western portion of Lower Canada in place of the miserable temporary makeshift at St Johns.

"Were this amount of additional Asylum accommodation provided, it is believed, that if the proposed system of dealing with incurable lunatics could be brought at once into operation, and our present large Asylums at Toronto, Quebec, Kingston and Malden, reserved for curable cases exclusively, it would not be found necessary for the Government to expend any further public moneys on the construction of Asylums for many years to come. And it must be borne in mind, that of the three important works above recommended, the two former, the extension of the Toronto Asylum and the completion of the Asylum at Rockwood, are now in progress, and that both are likely, within the next two or three years, to be finished."

We do think that Lower Canada has much to complain of in this matter; although we abhor the subject of sectional difficulties, this marked difference is forced on our notice. In 1864 the Inspectors strongly recommend these alterations or additions to asylum accommodation, and in 1866 we find the first and second part of their recommendation, "are now in progress, and that both are likely within the next "two or three years to be finished," but as to No. three, or where we poor Lower Canadians are concerned, what has been done? We presume we are so hopelessly insane, that there is no need affording us increased asylum accommodation, and hence the neglect of the executive as regards us. There is one point which we object to in the above quotation, and that is the recommendation of making Beauport Asylum an insane Hospital and building a large asylum in this section of the Lower Province for incurable lunatics.

The Inspectors have elsewhere declared that Beauport Asylum is a large boarding house, and in this we agree with them. There are many modern improvements in the construction of buildings, specially adapted for the treatment of insane curables, which this building does not possess and which it is impossible to adapt. If the Government are going to give us a *Lower Canada* Provincial Lunatic Asylum, we may at least hope that they will not build without taking advantage of the experience gained by those who have been connected with these establishments all their lives, and who have become fully alive to the faulty construction of nearly all our public buildings, intended for the relief of this afflicted class. Again, in building, we do trust that an "Insane Hospital," specially so intended, will he constructed, and not a large mass of stone or brick intended for the care of incurables.

CANADA

MEDICAL JOURNAL.

ORIGINAL COMMUNICATIONS.

Lectures on the Diseases of the Eye, recently delivered before the Ophthalmic Class of the Toronto School of Medicine. By A. M. Rosebrugh, M.D.

(Continued from page 104.)

4. Secondary Glaucoma.

Many surgeons know "to their sorrow," that sometimes, after making a pretty free division of a cataractous lens (keratonyxis), the globe becomes very hard, the anterior chamber shallow, the cornea anæsthetic, and of a dirty sallow colour, and the pupil slightly dilated. The lens may become completely absorbed and the pupillary space faultless, and yet the sight almost, if not quite destroyed. The nature of this complication was not fully understood until Von Graefe made the double discovery that it is glaucomatous in its character and that iridectomy is the remedy.

The diseases that may be complicated with glaucomatous symptoms are traumatic cataract, iritis, posterior staphyloma and (according to Von Graefe) prominent corneal cicatrix.

Traumatic Cataract.—The capsule of the lens may be divided accidentally by a foreign body; or it may be divided by the cataract needle for the cure of cataract; in either case the aqueous humour comes in contact with the lens and causes it to swell from imbibition of the fluid. The amount of swelling varies considerably in different cases. If the lens is transparent, the swelling is much greater than when it is opaque (cataractous). A division of the capsule in the adult will often

cause severe inflammatory complications; the lens becomes swollen, and by its contact with the iris and ends of the ciliary processes causes inflammation of these structures.

Each case of cataract must be treated upon its own merits. In addition, it will often be found advisable to remove the softened lens by "linear incision," or by "suction;" but in the case of adults, the glaucomatous complication must be relieved at an early day by iridectomy.

Iritis.—If, during an attack of iritis, the pupil is not kept constantly dilated with a strong solution of atropine frequently applied,* there usually results more or less extensive adhesions of the iris to the capsule of the lens (posterior synechia). These adhesions act as a constant source of irritation, and sooner or later develop a chronic or recurrent iritis. With each attack of inflammation, the pupillary margin of the iris is adherent to the anterior capsule (synechia posterior totalis, and called by M. Graefe "exclusion of the pupil.") After the whole of the free edge of the iris becomes adherent to the capsule, the eye usually becomes glaucomatous; the aqueous humour being secreted in the posterior chamber, the iris is pushed forwards; the ball becomes abnormally hard; and if there is a clear pupillary space of sufficient size to admit of an ophthalmoscopic examination, the optic nerve is found cupped. Iridectomy acts beneficially in this form of glaucoma, not only by relieving intra-ocular pressure, but also by restoring a communication between the anterior and posterior chamber, and by giving the patient an artificial pupil.

Posterior Staphyloma.—In my introductory remarks on the optical defects of the eye, I drew attention to the fact that in cases of "short-sightedness," where the myopia exceeds $\frac{1}{5}$ (the "far point" being less than 5 inches from the eye), there usually co-exists staphyloma of the sclerotic coat at the posterior part of the globe. With the ophthalmoscope, the staphyloma is seen forming a brilliant white crescent round the outer edge of the optic nerve-entrance, and between it and the *macula lutea*. In such cases vision does not generally become impaired, unless the staphyloma involves the yellow spot of Soemmerring, or becomes complicated with detachment of the retina. Apart from these causes, however, the eye may become glaucomatous, the acuteness of vision becoming impaired, the eyeball abnormally hard, the pupil dilated, and the optic nerve entrance excavated. "Iridectomy proves also beneficial in these

* In treating cases of iritis, the pupil must be promptly dilated with a 4-grain solution of atropine, applied at first every half hour; and the pupil should be kept widely dilated for two or three weeks after the inflammatory symptoms have disappeared.

cases, saving the sight of the eye, which would otherwise have become completely blind."—(*J. S. Wells.*)

III. TREATMENT.

In cases where glaucoma is left to take its course, or not properly treated, the prognosis is most unfavourable, as the disease, sooner or later, leads to complete destruction of vision. It having been demonstrated that all the symptoms of glaucoma depend solely upon excessive intra-ocular pressure, the treatment must be directed to this point. Iridectomy having been proved to relieve (in most cases permanently) abnormal tension of the eye,—all other modes of treatment having failed,—this operation is now adopted by most of the distinguished oculists throughout the world.*

Treatment of the Premonitory Stage.—Von Graefe hesitate for a long time before performing iridectomy in the promonitory stage of glaucoma for the reason that between the intermissions of the attacks, the vision is still acute. Even now, in cases where the attack of the premonitory symptoms is mild in its character, and does not impair vision, and the intermissions are months in duration, he does not consider an operation advisable. Such patients are simply warned against excessive use of their eyes, and against excesses of any kind. Iridectomy is more especially indicated in this stage of glaucoma, when one eye is already blind from this disease, and the other is threatened; in such a case, Von Graefe resorts to the operation as soon as the premonitory symptoms become well marked, and especially if the attacks are accompanied by indistinctness of vision. The operation is also recommended in cases where the premonitory symptoms occur at short intervals, and an attack of acute glaucoma seems imminent, as well as in cases where the disease seems to be passing gradually, and perhaps almost imperceptibly, into chronic glaucoma.

Treatment of Acute Glaucoma.—Von Graefe at first endeavoured to alleviate the symptoms of acute inflammatory glaucoma by antiphlogistic treatment, opiates, &c.; but at a later period he became convinced that, notwithstanding the violence of the inflammation, it was better to perform iridectomy immediately: "for it is especially under these circumstances that any delay is dangerous, and the operation itself is the most certain treatment of the inflammation." If the operation is

* Mr. Hancock, of London, recommends an operation which he calls *division of the ciliary muscle*, for the relief of intra-ocular pressure; but it is considered to be both an inefficacious and dangerous remedy,

performed within two weeks of the commencement of the acute attack, and while the patient retains considerable vision (sufficient to enable him to count fingers at a short distance from the eye), the prognosis is quite favourable. The ciliary pain is usually relieved at once by the operation; the symptoms of irritation recede without any other treatment; the turbidity of the aqueous and vitreous humours rapidly disappears, and vision usually commences to improve from the first.

Mrs. Houghton of Stratford, aged 55, was sent to me by her physician Nov. 12th 1862. She had the symptoms of acute glaucoma in both eyes; abnormal tension, dilated pupils, ciliary neuralgia, etc., etc.; the ambly-opia was almost total,—being unable to distinguished fingers at any distance. The vitreous humour was too hazy to admit of an ophthalmoscopic examination. The pain and other symptoms of acute inflammation had somewhat subsided in the left eye, but the blindness still remained. The left eye had been affected four weeks, the right but ten days. The only premonitory symptom noticed by the lady was the fact that for a short time before the acute attack, she had been obliged to change her reading glasses for stronger ones. As no time was to be lost I operated upon the right eye the same day (the 12th), making the iridectomy upwards. There was some hæmorrhage into the anterior chamber. In five days the pain on that eye had ceased, and the anterior chamber was free from blood; an the ninth day she could read No. XX. of Snellen's test types. On the 26th, I operated upon the left eye,—making the excision of the iris upwards. Some hæmorrhage into the anterior chamber followed this operation also. In two weeks all pain had ceased, and with that eye the patient could see the cross-bars of the window at a distance of about five feet. Six weeks afterwards I again saw her; the right eye had continned to improve from the first; she could read ordinary type with the aid of her glasses. The left eye, however, had not progressed so favourably; there was still abnormal tension, and vision was indistinct. I then evacuated the aqueous humour by making a radiating incision (in the direction *from* the pupil) transversely through the cicatrix of the last operation.* About a year afterwards (January 1864), Mrs. Houghton's son reported that her sight was perfect in both eyes, and that she was then able to read *without* spectacles. In this case iridectomy was performed on the right eye ten days after the outbreak of the acute attack,—resulting in perfect restoration of sight in that eye in six weeks. In the left eye, six weeks had elapsed before the

* In a report of this case published in the American Medical Times July 23rd, 1864, this operation is spoken of as "*division of the ciliary muscle.*"

operation, and the recovery was less satisfactory, rendering a second operation necessary.

According to the experience of Von Graefe, although vision was perfectly restored in all his cases of acute glaucoma where iridectomy was performed within two weeks of the attack of inflammation, he nevertheless considers it much safer to operate in the premonitory stage; he says, "an accident of consequence will rarely occur in the promonitory stage, even when the operation is not quite well performed; on the other hand success may be frustrated in the acute period by internal hæmorrhages, very large retinal ecchymoses, &c., when all precautionary measures are taken."

Treatment of Chronic Glaucoma and Glaucoma Simplex.—In most cases of chronic glaucoma and glaucoma simplex, the prognosis is unfavorable. Unfortunately, in these cases, the patients do not apply until the disease has far advanced. If, however, in any case, the *macula lutea* is still the most sensitive part of the retina (the "fixation" being "central"), vision not being very much impaired, and excavation of the optic nerve entrance not marked, iridectomy will generally, at least stay the progress of the disease, and in many cases improve the vision. The improvement that follows the operation in these cases is always very gradual, generally extending ever a period of many months.

Treatment of Glaucoma Absolutum.—When, in the later stages of glaucoma, the disease has run its course, and all sight is lost, iridectomy still proves useful by diminishing inflammatory symptoms and relieving severe ciliary pain.

Treatment of Glaucomatous Degeneration.—In the last stage of the disease in which the eye is completely disorganized, it is sometimes necessary to remove the eye altogether in order to relieve the patient's sufferings and save the other eye from becoming sympathetically effected. When this operation is performed, the bulb only is removed; the muscles and conjunction are allowed to remain to form a movable cushion ("stump") for the subsequent adaptation of an artificial eye.

THE METHOD OF PERFORMING IRIDECTOMY.

In the operation of iridectomy, for the relief of glaucoma, the chief point is to remove a segment of about $\frac{1}{3}$ of the iris, from the pupillary edge quite up to its ciliary attachment,—leaving a pupil of the shape shown in fig. 3. The instruments required for the operation are, a wire speculum to keep the eyelids open, (Laurence's or Weiss' stop-speculum), a pair of forceps to keep the eyeball steady, a lance-shaped knife $\frac{3}{8}$ of an

inch wide at the base (see fig. 1), a pair of bent iris forceps, and a pair of strabismus scissors.

The patient should be placed in the recumbent position and brought fully under the influence of chloroform. Some surgeons apply a little of the extract of the calabar bean to the eye about half an hour before commencing, for the purpose of keeping the pupil contracted during the operation; the pupil being usually widely dilated, and the anterior chamber considerably flattened, there is danger of wounding the capsule of the lens unless this precaution is taken.

In order to simplify the subject, let us suppose that the operation of iridectomy is to be performed upon the outer side of the left eye; in that case we proceed as follows: Having opened the eyelids to the desired extent with the stop-speculum, the operator places himself in front of the patient, with the knife in his right-hand and the forceps in the left. With the forceps, the conjunctiva and sub-conjunctinal tissue is to be seized near the cornea at the inner side of the eye, for the purpose of keeping the ball steady during the operation,—care being taken that no pressure be made upon the globe. The point of the iridectomy knife is now laid upon the conjunctiva, at the outer side of the eye, about half a line behind the margin of the cornea, and is thrust through the conjunctiva and sclerotic into the anterior chamber; when the point of the instrument has entered the anterior chamber, the handle is well laid back towards the temple, so as to bring the flat of the blade parallel with the plane of the iris; the knife is now steadily pushed forwards in front of the iris towards the opposite side of the anterior chamber, (See Fig. 1,) care being taken not to evacuate the aqueous humour or prick the iris; when the incision is of the desired length or the widest part of the blade has entered the wound, the instrument must be withdrawn very slowly and gently so as to evacuate the arqueous humour very gradually; otherwise the intra-ocular pressure would be relieved too suddenly,—followed perhaps by a rupture of some of the capilliaries of the retina and extravasation of blood. A very good method, recommended by Mr. Carter, is, first, to loosen the knife in the incision—to allow the gradual escape of the fluid, and afterwards to withdraw the blade quickly,—the handle being kept well back so that the point of the instrument will be kept from wounding the iris or lens. The forceps are now given to an assistant, with which he must turn the eye to a convenient position for the next step in the operation. The bent iris

FIG. 1.

forceps are taken between the thumb and fore finger of the right hand, and if the iris is not protruding through the wound (prolapse), they are passed into the anterior chamber, and the iris seized near the pupillary margin and withdrawn a little outside the lips of the wound. The forceps, still holding the iris, are now very carefully changed from the right to the left hand, and the scissors taken in the right, with which, the projecting portion of the iris must be slit up from the free edge (close to the iris forceps) to the ciliary margin within the sclerotic incision. The slit should be made above the forceps, and the lower division torn from its ciliary attachment, by dragging it against the lower limit of the sclerotic incision; it is rendered tense (Sec. Fig. 2,) and cut off with the scissors close to the conjunctiva. The upper division of the iris (which usually remains projecting through he wound), is also torn from the ciliary margin by dragging it upwards to the extreme limit of the scleroti wound where it is also to be made tense and cut off close to the wound. By thus removing the lower division first, any hæmorrhage that might follow would be less likely to interfere with the removal of the upper division. Fig. 3 represents the shape of the pupil after the segment of the iris has been excised. If there is hæmorrhage into the anterior chamber after the operation, an effort must be made to evacuate it, by making pressure with the forceps or curette upon the posterior lip of the wound. After the eye has been freed from blood, the eyelids must be gently closed and two or three narrow strips of Husband's isingless plaster applied to keep them in apposition. In cases of extensive hæmorrhage into the anterior chamber, Arlt's compressed bandage should be applied. If pain should come on soon after the operation, two or three leeches should be applied to the temple without delay. The patient must be kept quiet and the eyelids kept closed for about four days.

FIG. 2.

FIG. 3.

The beginner will find it much the easiest to perform iridectomy outwards; the upward exsection is however to be preferred, for the reason that the eyelid afterwards covers the slight deformity and prevents any unpleasant dazzling by shading the upper portion of the enlarged pupil. In performing iridectomy upwards, it is necessary to use an iridectomy

knife that is bent close behind the widest part of the blade; and the assistant must use very great care in rolling the ball downwards.

Mr. Carter, of Stroud, England, performed iridectomy 57 times without any mischance; there are however certain disadvantages that may arise from the operation; under certain circumstances the outbreak of laucoma in the other eye may be accelerated; in some cases the incisions in the sclerotic heals imperfectly ("cystoid cicatrix;") but these are very slight drawbacks when compared to the "inestimable boon which the operation affords."

In confirmation of the views expressed in the foregoing pages in favour of iridectomy, I make the following quotations, with which I must bring this lecture to a close:

"An immediate operation for strangulated hernia can never be more essential to the preservation of life than an immediate iridectomy frequently is to the preservation of eyesight. The time during which it can be usefully performed is often very limited, and the patient whose case requires it has a right to expect relief at the hands of the nearest practitioner. There can be no doubt, I think, of the correctness of the opinion advanced, a year or more ago, by the Editor of the *British Medical Journal*, to the effect that any surgeon who neglected iridectomy in the presence of certain indications for its performence, would incur great risk of being mulcted in very heavy damages as the defendant in an action for malpractice." (Carter.)

"From the first introduction of iridectomy into England, in 1857, it has proved the source of the greatest blessings to numerous sufferers; and now that the indications for it, and the mode of performing it, are generally understood, there will very shortly, in my opinion, be no excuse for any one, oculist or general surgeon, who shall neglect either to perform it himself in suitable cases, or to pass on his patient to some one who will." (Bowman)

REVIEWS AND NOTICES OF BOOKS.

Chloroform: its Action and Administration. By Arthur Ernest Sansom, M. B., London, late House Surgeon and Physician-Accoucheur's Assistant to King's College Hospital. 8vo. pp. 279 Philadelphia: Lindsay & Blackiston. 1866.

The work before us consists of twenty chapters on the subject of chloroform, its action and administration. Chapters one and two, are

on the discovery of chloroform and the influence of that discovery. The author gives a succinct history of the means adopted, from the very earliest periods, of preventing suffering during surgical operations. The ancient Egyptians employed drugs to produce a state of insensibility; these were chiefly the Cannabis Indica, and the juice of the poppy. The Romans, at the time of the Empire, employed various means to mitigate the pain inflicted by the surgeon's knife. Pliny and Diascorides mention several medicaments given by the stomach to relieve pain. The Chinese of the third century employed inhalations of the fumes of burning hemp, for the purpose of mitigating the horrors of surgical operations. At various periods of the world's history, surgeons have endeavoured to allay pain by the exhibition of narcotics. Sir Humphrey Davy experienced relief in cutting a wisdom tooth by inhaling nitrous oxide gas, and he suggested that it might be used with advantage during surgical operations. In 1844, we find his suggestion adopted by Horace Wells, an American dentist, who extracted teeth, without pain, from parties while under the influence of laughing gas. Subsequently, sulphuric ether was employed by inhalation, and Morton, the dentist, extracted a tooth from a man named Frost, while under the influence of sulphuric ether, absolutely without his knowledge of the operation; this was at Boston, U.S., on the 13th September, 1846. Some delay was occasioned in extending the benefits of this boon to suffering humanity, as Mr. Morton secured patent rights, and did not explain the nature of the substance inhaled.

We remember well this *cause celèbre*, and shortly after we saw in the Montreal General Hospital the vapour of ether tried in a case in which amputation of the leg was deemed necessary. About the same period, ether by inhalation was employed by Dr. Douglas at the Quebec Marine and Emigrant Hospital, Dr. Worthington of Sherbrooke, and more extensively in the United States hospitals of New York, Philadelphia, Boston, &c. But the discovery of the properties of chloroform, by Dr. Simpson, completely supplanted ether as an anæsthetic.

Before the discovery of the anæsthetic properties of chloroform, the surgeon required nerves of steel to enable him to perform his duty on the shrinking, writhing form before him. In looking back, at the times that are past, we well remember the sensations experienced in witnessing surgical operations performed under the most trying circumstances, when the groans and shrieks of the sufferer sent many a pang of horror to the looker on. We regard the benefits derived by the discovery of anæsthetics as inestimable. The mortality of all operations has been considerably essened; according to the statistics given by one author, they are in

some instances fully one-half. All honour, then, is due to the benevolent men, who, at the risk of their own lives, discovered the anæsthetic property of chloroform.

It was to the persevering energy of Sir J. Y. Simpson, that the world owes this great discovery.

"In March, 1847, Flourens announced to the Academy of Sciences of Paris, certain observations on the anæsthetic powers of chloroform upon animals. He considered it dangerous. Meanwhile, Dr. Simpson, of Edinburgh, had experimented on many hydrocarbons, on acetone, nitrous ether, &c., with a view of determining their anæsthetic properties. On the memorable evening of November 4th, 1847, he determined on trying a hitherto discarded, heavy fluid, chloroform.

"Dr. Miller gives a graphic account of this birth of chloroform. Doctors Simpson, Keith, and Duncan sat each with a tumbler in hand, and in the tumbler a napkin. Chloroform was poured upon each napkin, and all patiently inhaled and waited for something to turn up. After a probation, Dr. Simpson, drowsy as he was, became convinced that something *had* turned up, for he heard Dr. Duncan snoring, and Dr. Keith kicking about in an inelegant manner. All these effects had been manifest in a very short time, and the experimenters (or experimentees) all agreed that chloroform was far more agreeable than ether.

"Hereby, then, Dr. Simpson established an agent far quicker in operation, far more pleasant than ether. Soon afterwards, chloroform was administered to a highland boy, and a diseased portion of the bone of his forearm was removed absolutely without pain."

The next four chapters are on the chemistry of chloroform, the effects of its inhalation, its physiological effects and action on the blood. We next come to "the danger of chloroform;" diseased conditions, which increase that danger, and danger of incautious administration of chloroform; signs of danger, and mode of death.

Chapters twelve and thirteen are devoted to the subject of resuscitation in apparent death from chloroform, and practical details, &c., for producing resuscitation. There are several marked cases which have been recorded in which the patient has been saved by constant and unwearied attempts at reanimation.

"In the first case of resuscitation recorded the pulse had ceased, but artificial respiration restored the patient (Ricord). In a case recorded by Mr. Broadbent, the heart had ceased to beat, the pulse had quite stopped. Artificial respiration and tracheotomy restored the patient. In another case the alarming sign was that the blood issuing from the wound made for the removal of an adenoid tumor of the breast ceased.

The heart had, of course, failed. Artificial respiration was commenced, and at the end of three minutes the pulse began to return; in six or seven minutes there was recovery. A third instance is recorded by Dr. Burge, of New York, Chloroform was given to a young lady for the performance of amputation of the thigh. The respiration ceased, the pulse could not be felt, and the jaw dropped, but artificial respiration restored life. A fourth is recorded by George Wigan, Esq. In a fifth, after respiration, had ceased, the pulse ceased, and all around thought that death had taken place. Trachetomy performed immediately, and artificial respiration, kept up for an hour and a half, restored life. In a sixth case, a girl of six, the pulse ceased—'there was no pulse for a quarter of an hour.' Artificial respiration, kept up for half an hour, restored life. In a seventh, a boy of four, the pulse *had quite ceased*, the jaw had dropped, and the body had become corpse-like. Artificial respiration, continued by means of Faradization of the diaphragm, restored life."

There is a chapter on methods of administering chloroform, as also one on practical rules to be observed during its administration. The concluding chapters are devoted to the subjects of chloroform in surgery; in obstetric practice; in practical medicine, and in dentistry; and the author fully points out the benefits derived by the employment of this agent. In surgery it has produced a revolution in practice, as it is not alone the saving of shock and pain to the patient, but what is often of greater value to the surgeon, the relaxation of muscles as in cases of dislocation. The author has certainly "supplied a want," and has at the same time given to the medical world a work of great practical merit. We must recommend its perusal to all. It is neatly got up; but we think the illustrations, of which there are some sixteen, might be better executed. To be had of Dawson Bros.

A Manual of the Principles of Surgery, Based on Pathology, for Students. By WILLIAM CANNIFF, M.D., M.R.C.S., England, late Professor of General Pathology and the Principles and Practice of Surgery, University of Victoria College, Toronto, C.W., &c., &c., 8vo. pp. 402. Philadelphia: Lindsay & Blackiston. 1866.

The author informs us that the basis of this work was laid while he was engaged in delivering lectures on the Principles and Practice of Surgery, in connexion with Victoria College, Toronto, C.W. It may be regarded, therefore, as the work of a Canadian author, and although we are not of that class who look for no good thing out of Nazareth, we must say that we cannot commend this book as containing original teaching, the result of extended observation. In fact, the author honestly affirms

that " the ground work is mainly derived from the lectures delivered by him upon general Pathology and Surgery," and that " in the preparation of these lectures, the following works were freely consulted"—Rokitansky, Jones, Sieveking, Gross, Simon, Miller, Cooper, Chelius, Paget, and Holmes. The author deserves credit in having produced a book, which will be found of use to the student, as containing much information, put before him in a clear and comprehensive style. No new light is thrown on the subject under consideration; still the latest views on Surgical Pathology are given, and given in plain language easily understood.

The arrangement is peculiarly the author's own, and in this consists much of the merit of this work. It consists of five divisions, the first chapter being introductory, treats upon nutrition, development, growth, decay, repair.

In the first division is considered the subject of inflammation, and the diseases which arise out of this state of the system. This is a most extensive subject, covering a large surface, and hence we have devoted to it nearly one-half of the volume. In the second division the author takes up the consideration of the healing process, and diseases of the healing process.

In the third division are considered external injuries, contusions and wounds. In the chapter on gun-shot wounds, the author gives some interesting facts with regard to the course and extent of wounds inflicted by projectiles which he witnessed during the late American campaigns.

" When it is remembered that the body is capable of assuming a great variety of positions—that the limbs, one or more may be stretched, or flexed in different directions, and that during the conflict the soldier will necessarily be at times in every conceivable attitude, while the enemy may fire upon him from different directions, it can be readily understood that not only may the body be wounded in any part, but the ball may pass in every direction through the body or limb. At the first battle of Fredericksburg there were a certain number of men placed in a very exposed position. This was done during the night, and in the morning they had to lie flat upon the ground to be safe from the Confederate sharpshooters. This position was held during the day; and now and then, when the head of one of them was raised to the slightest extent from the ground, it became a target for the rifleman. The result was that a large number were wounded in the head, face, neck, and summit of the chest. In some cases the ball had traversed the neck obliquely. Sometimes it had passed parallel with the body, and into the thorax and abdomen."

" I saw not a few cases in which the ball had travelled along through a limb. Sometimes from the knee, striking the limb when flexed, up through the thigh into the pelvis, or down the leg to the ankle. Also up or down

the arm. Sometimes the same ball had inflicted several wounds. One case, which I saw after the battle of Chancellorsville, will serve to illustrate this fact, as well as the extraordinary direction the ball may take. A private of one of the New Jersey regiments had been wounded in the right arm while in the act of putting a cartridge into his musket. The ball had completely cut off his forefinger, then passed directly through the body of the hand, and again entering the back of the arm, about two inches above the wrist, had ploughed a furrow for a few inches, and then entering into the deeper part of the arm, had finally made its exit and escape a little above the external condyle of the humerus. Now, it can be at once understood from the foregoing, that when the ball, instead of making its escape from the body, remains within it, it will be exceeding difficult to ascertain its locality. Not only may the ball the lodged in a part very remote from its place of entrance, but chance may have taken it in one direction, or perhaps the opposite. It will be impossible to tell its course unless its track can be traced externally, or the patient can call to mind the position he was in at the time he was wounded, and the direction the ball came; but then, even, it may be impossible to say wither it has passed."

The fourth division is devoted to the consideration of diseases of certain tissus, such as bones joints (including fractures and dislocations,) also diseases of arteries and veins; this division is very complete and contains much matter the result of the observation and experience of the author. The last division is on morbid growths.

Altogether this book bears evidence of careful study and preseverance, devoted to this particular branch of the science of the healing art, and will be found of use by the student, as enunciating the doctrines of masters of the science of surgery, with much that is the result of patient and pains-taking observation.

The work is an excellent manual, printed on good paper; the cuts are clear and distinct, and are taken, as the author intimates, from Paget's Surgical Pathology.

Medical Diagnosis, with special reference to Practical Medicine. A Guide to the Knowledge and Discrimination of Disease. By J. M. Da Costa, M.D., Lecturer on Clinical Medicine, and Physician to the Pennsylvania Hospital; Fellow of the College of Physicians of Philadelphia, &c., &c. Illustrated with engravings on wood; second edition, revised. 8 vo. pp. 784, Philadelphia: J. B. Lippincott & Co., 1866.

The acceptance, by the profession, of any scientific work, by its ready sale, is a fair evidence of its quality and usefulness. We gave our

opinion of Dr. Da Costa's work some two years since, and again we have the pleasurable duty of recommending a second revised edition to our readers, as containing additional matter, of the most useful character to the junior practitioner; not alone to him, as all well be enlightened by its clear teaching. Diagnosis may be said to be the most important department of the healing art and to a logical mind, one not too much given to speculation, the diagnosis of disease becomes almost a matter of certainty. In this edition the author has added about ninety pages and twenty-two wood-cuts. These additions are chiefly on subjects which were rather briefly noticed in the first edition, such as on diseases of the brain, larynx blood, urine, abdominal enlargements, and on parasitis, though new matter has been added to other parts of the work. We can cordially recommend this book as eminently of great value to the practitioner, and would advise all our readers to secure a copy. The work is well printed on excellent paper, and the wood cuts finished in the highest style of art.

PERISCOPIC DEPARTMENT.

Surgery.

DETACHMENT OF THE RETINA—THE CAUSES AND THE TREATMENT.

By Haynes Walton, Surgeon to St. Mary's Hospital and to the Central London Hospital.

Detachment of the retina from the choroid may be the result of an accident—for instance, blows on the eyeball or about the orbit—but for the most part it cannot be traced to an injury, nor is it generally palpably associated with any. It is the physical effect of fluid effusions of various natures, chiefly however serous, or of firm solid deposits, or malignant diseases.

It is to the class of cases only produced by the pouring out of serum —dropsy under the retina—that I intend to consider.

This separation of the ocular tunics by fluid is a common occurrence, and one of the greatest changes, mechanically and pathologically, that occur in the interior of the eye. It is one without any external or objective symptoms, except under certain conditions to a well-practised observer; when generally in a young person with a fully dilated pupil, a bluish shred may be seen moving deep in the eye. Nor are there definite and unmistakable subjective symptoms for the several stages of the affec-

tion, although to express those which are most common, avoiding detail, they are hemiopia, or loss of a portion of the field of vision, corresponding in extent to that of the retina which is damaged; and in the case of limited eccentric detachment and good central vision, occasional interruption to sight by the detached piece floating, and more or less eclipsing the pupil. Yet it is only to ophthalmoscopic investigation that we can trust. In all cases of impaired vision, of which the pathology is not at once manifest, we ought to look into the eye for the cause, and there learn what may have happened as best we can. Even then a detached retina may not always be detected, because of haziness of the vitreous body.

The appearances of detached retinæ are not so well known to the general body of the Profession as to render some account of them unacceptable, and a short description will help me in handling my subject. Therefore I will tell them, and as concisely as possible.

Supposing, then, the eye under examination, should the separated portion be large enough and happen to cross the line of the pupil when the fundus is focussed, it might be supposed for the moment that cataract is present, but the first movement of the eyeball whisks the membrane aside, and then it is seen to undulate in fields or swell out in a tense form. The colour varies from a light bluish or grayish tint to a dead white, which is the last change. A retina detached, but not yet in folds, looks œdematous and swollen. The recognition of the retinal vessels and their arrangement removes any doubt in the diagnosis. They are apparent or hidden, according as they are over the floating folds or between them, now appearing in high relief, now vanishing out of focus, and they even vary in colour. Then there is a sudden bending of the vessels at the line of the separation. This is one of the ophthalmoscopic objects that cannot be well delineated.

The displacement may be limited or the whole retina detached in a funnel-shaped form, in which case the optic nerve is more or less hidden by its folds. It is but of slight practical moment as to which part of the retina is most frequently or originally detached, but the extent to which the loss of connexion takes place is of the highest importance as regards vision. A fair amount of sight is retained as long as that around the macula lutea is sound, and this even when the optic disc is encroached on by any bulging part.

As any degree of detached retina is very likely to be followed by an amount of separation that will produce blindness, or inflame and so spoil the function of that undetached, and as it is seldom that we meet with a case in which the eye is not already spoiled, it is evident that a worse

class of cases does not occur. There is not, it would seem from the peculiarity of the lesion, any natural cure—no opportunity for the natural reparative power. When the seeing property of that which is separated is not quite lost, it is always very materially deadened, and in the end quite annihilated. At times, but very rarely indeed, by an accidental mechanical process, the tearing or bursting of the retina and the escape of the effused fluid into the viterous humour, there seems to be, according to some observers, an arrest of the process of separation. Notwithstanding this apparently hopeless state of things, it is my conviction that there is scope for treatment and opportunity for success. I entertain more hope of conferring benefit than others seem to possess who have been trying remedial measures. But then I employ general as well as local measures, and regard the former as perhaps the more powerful, but think the two should be combined.

I think, too, that the degree of success depends on the time the treatment is commenced; that except it be early and during the acuteness of the attack, nothing can be expected; yet I speak with diffidence on a subject beset with difficulties, and respecting which so much remains to be worked out. It is obvious, then, that I do not regard an example of this affection merely as a case for an operation that might be performed at any time, and that after the discharge of the fluid the work is done. I rather look into the pathology of the affection, and try to find the cause of the effusion, or, at any rate, seek to discovor what are the associated processes that occur in the eye, the order in which all the symptoms appear, their extent, severity, and duration; the conditions of the persons it occurs in, age, etc.

It cannot be that the effusion of serum is a disease *per se*—no. It is merely the consequence of other actions in which many tissues are involved, and, as I think, of an inflammatory nature, and when idiopathic mostly asthenic in form. It is not simple mechanical dropsy. I cannot see any objection to this hypothesis. The retina and the choroid have but the slightest connexion, and an exudation between them is an easy and likely morbid effect of inflammation in the eye. Then this slight mechanical resistance favours extravasation, and however small the source of the exudation, the fullest damage may accrue as to the detachment. The separation of the retina when it occurs after an external injury to the eye may, I think, be explained in the same way. First, the inflammation, however slight, then the effusion between the retina and the choroid. One cannot tell why this effusion occurs so rarely, when the eyeball is so often the subject of inflammation. Parallel puzzles are to be found in the diseases of other organs.

I will relate a case which, as far as it goes, appears to me to support my pathological remarks, and certainly strengthens what I have suggested about treatment.

A gentleman, about sixty years old, was led into my room, for he could not see his way. Two years before he lost one eye after about ten days of increasingly impaired sight. A fortnight before applying to me the other eye began to fail like the first, objects looked in a mist, then very large motes floated before him, vision became worse, and in a few days he could not see his way about. The eyes looked healthy enough externally, but an ophthalmoscopic examination showed these states. In that which was quite blind the greater portion of the retina was detached. In the other, in which there was not any useful sight, for he could but just discern a hand when held six inches from his face, the vitreous humour was so hazy that there was but enough reflected light to enable exudation, in the form of floating patches and shreds, to be seen in it. Some, of course, only of them. Yet with all this internal disturbance there was no apparent disease of the outer parts. The iris seemed healthy, and the pupil was fully affected by atropine. This was just the kind of case I had been looking for, and as it possessed so much interest, I showed it to my colleague, Mr. Taylor, and others. In the one eye certain conditions had been developed that left as one at least of its effects a separated retina; in the other was to be seen that intensity of action which in all probability was the parallel of what took place in the other, and would more than likely leave the same result. I could not detect any evidence of bad general health. I operated on the eye with the detached retina, evacuating the serous fluid, all of which, a surprisingly large amount, escaped externally in the sub-conjunctival tissue, making a very large chemosis. It was rapidly absorbed. Afterwards I directed my treatment to the other eye for inflammation of the internal ocular tunics, relying chiefly on very small doses of hyd. c. cretâ and hyoscyamus, and pot. iodid. Amelioration quickly followed in the clearing of the vitreous humour and in the quality of sight. At last the fundus of the eye was seen, and then detachment of retina at its upper and front parts was clearly made out, and the accompanying disturbance to vision was accurately noted down. It was recently detached, as the slight haziness of it showed, and it bulged rather than waved. I now evacuated the fluid from this eye. Very marked result ensued: the retina fell back, the vitreous humour cleared still more, and the effect on sight was marked, for soon my patient could read several lines from an article in the *Times*. I avoid giving a minute and detailed account of the several tests I subjected the eye to. My method of operating, how-

ever, I ought to explain. Having satisfied myself of the exact position of the detachment, I punctured the eyeball from without with a straight cataract needle, broader than usual, at a point of the sclerotica corresponding to it, avoided the rectus muscle, and took care not to wound the lens. I usually make a second puncture if the fluid does not run out quickly and sufficiently. It is my opinion that it is better to operate in this way than to endeavour to make an aperture in the retina, either by cutting or tearing, with the view of allowing an exit for the fluid into the vitreous humour, because the making of such aperture is a very uncertain proceeding at all times, and almost impossible when the retina is detached rather posteriorly. Then there is risk of increasing the separation in the attempt, and I certainly think that in a retina already so much damaged, the less the violence inflicted on it, and the less it is cut the better. Besides, an aperture so made is, I suspect, as likely to close as to remain open, and it is on its patentcy that the advocates of it rely for the advantage.

I still continue the general treatment. The vitreous humour cleared more, and but few of the floating particles were to be seen in it. My patient returned to me after the interval of a fortnight because he now saw something moving before his eye, and which interruped his sight. I found the retina again pushed forwards by fluid, but to a less extent than before, and now it moved more. The tapping was repeated. Two punctures were made, serum escaped externally. The retina, however, was unintentionally transfixed, and the vitreous humour immediately became too hazy for the eye to be illuminated, and it was a fortnight before it cleared. At this period, a month from the operation, the retina is apparently in contact with the choroid, and the power of seeing is as good as after the first operation. The pot. iodid. was ordered for a fortnight.

Although the full value of treatment can only be judged of by the lapse of time, I cannot doubt that it has dissipated the active disease, stayed the detachment of the retina, and therefere possibly saved the eye from destruction. I do not wish the case to be taken for more than it is worth; indeed, I regard it as yet imperfect, and only as encouragement for future treatment and observation in this class of disease, in which even an arrest of some portion of the retina from loss of its functions is worth working for.

The example, too, will induce me to regard with anxious watchfulness all those conditions of internal disease of the eye in which detachment of the retina is likely to occur. I shall therefore look with suspicion on all instances of inflammation of the vitreous humour. I mean those

changes in this humour apart from extravasations of blood from the retina, or the choroid, producing opacity with floating fibres and shreds. The time will not allow me to say more on this head.

The treatment, then, for detached retina, according to my views, must be chiefly and primarily of a general nature, and secondarily operative.

The tapping cannot be applied to all cases, simply because some cannot be reached by it, the affected part being too posterior. Besides, it is not always easy to make out the extent of the detachment. Indeed, to examine the several varieties of this lesion critically, to note well the defective state of sight, and afterwards to register correctly any improvement or disimprovement that may ensue, demands that amount of special knowledge and accuracy of observation that only careful study and much practice can give.

As I have treated many cases of detached retina according to the system I have advocated, I will make a general statement of the results. The mass of the patients have been seen by me many months and years after the eye disturbance had set in, when, in fact, the existing changes were only the traces of past disease, and in such I could not satisfy myself of having conferred benefit. Some were wont to think they had improved, but they were only deceiving themselves for a time. In two cases I believe the detachment was stayed and the eyes were so far saved. I will describe one of them:—

Three years ago I was called to the country to see an elderly gentleman with impaired sight. It was supposed that cataract was the disease—so, indeed, he had been told by medical men. I soon discovered that a great mistake had been made, as revealed by the ophthalmoscope. In the one eye the retina was detached on the upper and outer part. Sight was very defective, and the central vision was rather worse than the state of the eye accounted for. These subjective symptoms were increasing. In the other eye there were changes in the choroid, chiefly indicated in the condition of the pigment, which result from inflammation of that tissue, and the retina was highly injected. Here, too, vision was very defective, and was getting more impaired. There was reason to believe that the duration of the disease was not of longer standing than a few months. I tapped the worse eye and evacuated a large quantity of yellow serum from behind the retina, and then commenced the constitutional treatment. I resorted to a second tapping. I have occasionally seen my patient up to the date of my writing this; I saw him yesterday. Although I cannot find any decided improvement of vision in this eye, it is satisfactory not to discover any further deterioration. Detachment of the retina there still is, but there is not the separation of any more of it. That part of it not detached has not lost its functions.

The other eye is in an improved state, and type can be read that at first was almost invisible. The interior of the eye showed a signal improvement in the condition that admitted of it. I do not think it unreasonable to suppose that the treatment prevented detachment here, when the former state of the eye is considered, together with the known liability there is for the affection to be symmetrical. The sketchy style of my communication, and the brief and meagre manner in which many of the topics have been treated, were necessary, in a paper intended merely to be suggestive, to be short, and to provoke discussion.—*Medical Times and Gazette.*

CLINICAL REMARKS ON DIFFERENT MODES OF DEALING WITH THE PEDICLE IN OVARIOTOMY.

By T. Spencer Wells, F.R.C.S., Surgeon to Her Majesty's Household, etc.

(*Delivered at the General Infirmary, Chester, August 10th*, 1866.)

Mr. President and Gentlemen,—I am now about to perform ovariotomy before you in two very different cases. One patient is a young unmarried woman, who has a large non-adherent cyst which has never been tapped, and whom I saw yesterday for the first time, in consultation with Mr. Weaver. The other patient is a widow, and only one month less than 60 years of age. She has suffered between four and five years under her disease, has been tapped four times, and is much broken down in general health after suppuration of the cyst which followed the third tapping. When first I saw her, she was naturally anxious to avoid a dangerous operation, and preferred tapping, by which she gained some two years of tolerable comfort. But latterly she has suffered so much, that she eagerly accepted the offer of a bed here, kindly placed at my disposal by our President, Dr. Waters. In her case I know we shall find a suppurating and inflamed cyst, from the general symptoms, and from the fact that the fluid at the last tapping contained a great deal of pus. I am also pretty sure that there are extensive adhesions to the abdominal wall on the right side ; and on the left side a coil of intestine, giving a distinctly circumscribed resonance on percussion, in all probability will have to be separated from the cyst. If I find more extensive attachments below the brim of the pelvis than I anticipate, I shall content myself with simply laying the cyst open and emptying it ; doing little more, indeed, than tap, because an unusually serious proceeding in so old and emaciated a subject would be almost certainly fatal. But I trust that,

beyond the adhesions to the abdominal wall and to the intestine, there will be no great difficulty to contend with. In the case of the young woman, I have ventured to assure her, and so has Mr. Weaver, that the operation will be extremely simple—probably little, if at all, more dangerous than a first tapping—because I am very confident that an unattached cyst will be exposed, emptied, and drawn out of the abdomen through a very small opening.

[The patients were successively introduced, having been previously placed under the influence of chloroform in an adjoining ward by Dr. H. Simpson, of Manchester. The operations proved to be exactly what the operator had anticipated by the foregoing introductory observations. The cases have been fully detailed in our Hospital Reports. (See page 352.) After the termination of the second operation, Mr. Wells added the following remarks.]

There are so many subjects, gentlemen, suggested by the two operations which you have just witnessed, and your time is so valuable, that I will only detain you by a few remarks upon the different modes of dealing with the pedicle. You saw that in both cases I used the clamp and fixed it, with the end of the pedicle it secured, outside the closed wound. I might have tied the pedicle, or its vessels only. And in either case I might have cut off the ends of the ligatures short, and closed the wound entirely; or I might have left the ends of the ligatures hanging out through an unclosed portion of the wound. Or I might have compressed the pedicle by a needle or wire, or applied the *écraseur*, or used the actual cautery, or that combination of compression or crushing by a clamp and searing by the actual cautery, for which we are indebted to Mr. Clay of Birmingham, and which has been adopted of late with much success by Mr. Baker Brown. But I preferred the clamp, because it is the method which in my practice has been the most successful of any. I have tried the others, and have sometimes been well pleased with the result. But in other cases I have been grievously disappointed, and have felt pretty certain that if I had been able to use the clamp the result would have been different, If a pedicle be small enough to be securely held in a clamp of moderate size, and long enough to permit of the clamp being fixed outside the closed wound without much pull on the uterus or broad ligament, I wish for no readier or more successful method. The objections to it are either groundless or trivial. It is said to be very painful; but I have seen a good deal of pull with very little pain, and much more severe pain in cases where the ligature was used than I ever saw in clamp cases. So with sickness: I have seen as much, or more, after the ligature or cautery, as I ever saw after the clamp. It is said

to set up fœtid discharge and poison the wound or the patient; and so it does if proper care be not taken. But if the strangulated part of the pedicle which projects beyond the clamp be well saturated with perchloride of iron, as you saw me use it just now, the slough is tanned; it becomes as hard and dry as a piece of leather, and there is an end to that objection. It is said to cause suppuration about the wound; but this again, I have seen quite as frequently, in proportion, after the ligature or cautery. I never saw more profuse suppuration of the stitches than in one case where I divided the pedicle with the *écraseur*, and closed the wound with platinum wire sutures. Then, after the wound is closed, it is said to lead to a re-opening each month, and an escape of some menstrual fluid. And this is true in some—perhaps in nearly a third—of the cases. But if the patient be prepared for it, it is not of the slightest consequence. The Fallopian tube contracts completely after a few months, and there is no further escape. The fact that it does escape sometimes is to my mind an argument in favour of the clamp; for if menstrual fluid can escape through the partially close Fallopian tube fixed in the cicatrised wound, so it may escape if the tube be left within the peritoneal cavity, and the result may be a fatal hæmatocele. I have known this to occur in cases where the ligature was used and cut off short; and I believe it to be one of the strongest objections to this method, or any intraperitoneal method of dealing with the pedicle. As to any fancied impediment to the increase of the uterus in pregnancy, and to its contraction during labour, from the adhesion of the tube to the cicatrix, I can only say that nine of my patients have had children after ovariotomy—two of them two children—and there was no such complaint in any one case. One *real* objection to the clamp is that it may possibly pull on intestine, or a tense pedicle may strangulate intestine (and I have seen one such case). But this objection is of little weight if the use of the clamp be restricted to cases where the pedicle is so long that there is not much drag on the clamp. In such cases, I repeat, I desire no better method. But where we have a broad, thick, short pedicle, or a broad connection between uterus and cyst rather than a distinct pedicle, we want something better than the clamp. And we have the choice between wire or needle pressure, the ligature, the *écraseur*, and the combination of crushing and cauterisation, to which I have before alluded as an improvement due to Mr. Clay, for which he has certainly not received due credit.

I say nothing about acupressure or the wire compress, because I have never tried them. Sir James Simpson was successful in one case, and the plan is certainly worthy of trial.

The *ligature* of the pedicle can always be effected by transfixing it, and tying in two or more portions, before the cyst is cut away. Or a clamp may first be applied, the cyst cut away, and the pedicle then transfixed and tied below the clamp. But, if this be done, the clamp must be loosened before the ligatures are tightened, or the compressed tissues are so held that the knot cannot be tied so tight that it will not slip off as soon as the clamp is removed. If it be desired only to tie the vessels, it may be done by feeling the arteries, and carrying a ligature round them through the pedicle before the cyst is cut away; or after the application of a clamp and removal of the cyst, holding the pedicle carefully with forceps as the clamp is loosened, and tying any vessel which bleeds. The great objection to this plan is, that there is often much loose cellular tissue, rich in small veins, which go on oozing after all the larger vessels have been tied. Whichever may be the plan preferred, the important question arises, Shall the ends of the ligatures be cut off, and the wound closed? or shall they be left hanging out through a part of the wound, purposely left open for their passage, and that of the slough they embrace when it separates? Dr. Clay, of Manchester, still advocates this latter practice. I have tried it, and with success in about a fifth of the cases only; and I shall not willingly adopt it again. in its favour, it may be said, that it is a method applicable in all cases; that it secures an outlet for serum from the peritoneal cavity; and that, after the separation of the ligature and slough, no foreign body is left within the patient. But it seems to me better to have a choice of methods, and adopt each in its appropriate case, than to strive after one method applicable to all cases. I think the ligature-threads act as a sort of seton in the peritoneal cavity, set up inflammation, and excite the formation of the serum for which they are said to provide the outlet. Then, if the patient recover (and I have very great doubt whether very many subjected to this plan do really recover), there is a great liability to ventral hernia. The cicatrix remains weak at the spot where the ligatures passed out, and it yields before the pressure outwards of the viscera. I have seen this in nearly every case where I followed this plan; but I do not remember more than two cases where it followed the clamp. Therefore, if we use one or more ligatures, I am inclined to cut off the ends short, and close up the wound completely. Wire has been used for this purpose; but it seems an irrational practice. Silk, if pure, is an animal substance; and experiment proves that it may be absorbed. Wire cannot be absorbed, and must be more or less of a mechanical irritant. I tried wire on one side and silk on the other side of a sheep on which Professor Gamgee operated for me at the Albert Veterinary College, and

the superiority of the silk was manifest. But what we have to look to is the effect on the tissues strangulated, rather than the material by which the strangulation is effected. If anything like what goes on outside the body when the clamp is used, or inside when the wound is left open for ligatures, were to go on when the wound is closed, it is difficult to understand how any patient could possibly survive the process. She would almost infallibly be poisoned by absorption of the fœtid products the decomposing stump. But a very different series of changes must go on when the wound is closed and access of air is shut off. At any rate, experience proves that patients do survive the process; and *post mortem* examination has shown that ligature and pedicle have been coated by a sort of capsule of lymph. In my own hands, this practice has been much less successful than the clamp; and, even when patients have recovered, some of them have long remained in a state of semi-invalidism, very different from the robust health which is the rule after successful clamp-cases. This plan is that always followed by Dr. Tyler Smith. It was originated in 1821, by Dr. Nathan Smith, of Baltimore, who used *leather* ligatures. Dr. Rogers, of New York, in 1830, also cut off his ligatures "close to the knot, and left them to absorption." If I used the ligature, I feel disposed to cut off the ends whenever the patient is in pretty good condition, and sthenic peritonitis with effusion of lymph may be expected; but if low diffuse peritonitis and effusion of serum may be feared, then I suspect it would be better to leave the ends of the ligatures, and secure a drain through the wound for the serum. But we should still search for a better method than the ligature.

The *écraseur* I used once, and successfully. But I have not ventured on it again; for, if it should prove untrustworthy, and internal bleeding occur in any case, one's self-reproach would be very painful.

The *cautery* alone would almost certainly fail to stop such large vessels are as frequently met with in a pedicle. So might the *écraseur* alone, or the crushing which precedes division by the *écraseur*. But the combination of crushing and the cautery is certainly efficacious in a considerable proportion of cases. Mr. Clay, of Birmingham, as I said just now, introduced the practice, and carried it out by his "adhesive clamp" and hot irons. I wrote to him at the time, that, if it answered for adhesions and omentum, it ought to answer for the pedicle. And I might have tried it; but my first trial on a piece of omentum was unsuccessful, and I did not repeat it. But latterly Mr. Baker Brown has published so many cases in which he has successfully secured the pedicle on Mr. Clay's principe of combining pressure with the cautery, that I have tried it in five cases. Three of the patients recovered, and two died. In three, the

cautery was alone sufficient to stop all bleeding. Two of these patients recovered, and one died. In two others, on opening the clamp, considerable vessels bled, and ligatures had to be applied. One of them recovered, and the other died. I shew you here Mr. Clay's "clam," and the instrument as modified by Mr. Brown. It will be for further experience to determine whether, in cases of short pedicle, the ligature with the ends cut off short, or the *écraseur*, or the combination of crushing and cauterisation, is the more successful practice. For a long pedicle, I still prefer the clamp. It has been used before you in two cases, and you will hear the result. I feel very hopeful that it will be favourable in both cases; for Dr. Waters, as well as the surgeons, Messrs. Brittain and Weaver, to whom you are indebted for the opportunity of witnessing this operation, still new in many of our hospitals, have done everything in their power to insure success—have placed separate rooms at the disposal of the house-surgeon, Mr. Karkeek, who will add his earnest and hearty endeavours in a good cause; and, with such pure air to assist us as we sadly want in smoky London, and which comes here direct from the Welsh hills which you see from the windows, I trust the attempt to save the lives of the two women will prove creditable to surgery.—*British Medical Journal.*

THREE CASES OF COMPOUND DISLOCATION OF THE ASTRAGALUS, WITH REMOVAL OF THE BONES.

By T. T. Griffith, Esq., Wrexham.

The chief interest and value of the following cases, is that they illustrate and confirm the clear practical rules laid down by Mr. Turner, in his valuable monograph on "Dislocations of the Astragalus" published in the eleventh volume of the *Transactions* of our Association. The rules of practice there recommended are logical deductions from a thorough consideration of the subject in its anatomical, physiological, and pathological relations, and have received the sanction of the principal surgical authorities which have subsequently treated of this branch of local injuries; and I consider myself most fortunate in having read Mr. Turner's paper before meeting with a case of serious accident to the astragalus.

One important fact is that in compound complete dislocations of the bone, reduction may be considered impracticable from the almost immediate contraction of the muscles acting upon the os calcis and foot generally, bringing the tibia, fibula, and calcaneum into more or less

close and firm contact, leaving no space for restoring the astragalus to its wedge-like position within the joint. Then follows, as a conclusion, the necessity for removing the bone at once, to prevent the constitutional disturbances so likely to arise from its presence as a foreign body, detached more or less from its vascular and vital connexions, and liable to a long process of caries and suppuration.

I. *Case of Complete and Compound Dislocation of the Astragalus forwards and outwards: Removal of the Bone: Death from Tetanus.* David Roberts, aged about 40, of spare habit and of nervous temperament, suddenly leaped from a horse which started. He alighted on his feet, stood for a moment, and then fell. On visiting him, I found the astragalus of the right foot *completely* dislocated forwards and partially outwards through an extensive wound reaching across the instep; it remained attached to the ankle only by a few ligamentous bands. Upon dividing these the bone was at once removed. There was neither fracture nor displacement of the tibia or fibula. It was at once apparent that reduction of the astragalus would have been impracticable, and here I felt the great value of the rules laid down by Mr. Turner, deduced from sound physiological and pathological principles, as to the treatment such cases required. On examining the astragalus, I found that a small portion had been broken from the posterior and inner angle, and doubtless restrained in the joint by ligamentous union. The same circumstance occurred in another case; but there the fracture was through its posterior and outer angle. In both cases I deemed it best to allow the broken off portion to remain, hoping that its connection with living parts might secure a continuance of its own vitality. The wound was closed, and the limb laid on its outer side on a leg splint with a foot-piece. As far as the foot and wound were concerned, all went on favourably, and the general constitution was less disturbed than might have been expected, but on the fifth day symptoms of tetanus appeared and continued rapidly to increase till they ended in the patient's death. I think we may fairly exempt the mere removal of the astragalus from participation in causing the tetanus, but rather refer this untoward event to the laceration and contusion of the soft parts, and more particularly of those fibro-ligamentous structures through which the bone had been so violently forced.

II. *Case of Compound Dislocation of Ankle-joint, with Complete Fracture of the Neck of the Astragalus, and Extension of the Bone.* On August 14th, 1854, I was sent for to Wynnstay by Mr. Richard Roberts to see a patient, who had received a serious injury to his right foot. Edward Redington, aged 20, in perfect health, a helper in the stables,

had three hours before mounted a restive horse, which rearing, fell backwards and upon the boy, whose foot was under the horse. Upon examining the foot, I found a compound dislocation of the ancle-joint; the ends of the tibia and fibula were projecting, with a large portion of the astragalus, through a wound extending from the front of the internal malleolus across the instep to the posterior surface of the outer angle. Neither tibia nor fibula was fractured. The astragalus was entirely separated from the os calcis, and fractured through its entire neck; its articulation with the navicular bone was undisturbed; but a portion of bone lay loosely between the fractured portions, and this I removed. The foot was completely inverted to a right angle with the leg. There was free arterial hæmorrhage, but from no one branch of any size. It would appear that the foot had been doubled inwardly on itself: and thus, probably, laceration of the soft parts and dislocation of the bones were produced; but the direct fracture through the neck of the astragalus—a kind of amputation—and the detached portion between the body of the bone and the portion remaining attached to the navicular bone, must have resulted from a force directly applied across the neck of the bone, probably from the stirrup, or some hard, sharp inequality in the ground. The portion of the bone now exhibited will show this. The shock to the system was considerable, and the vital powers were much depressed. Amputation naturally suggested itself; but, bearing in mind the rules laid down by Mr. Turner, supported by cases, and seeing that the man was perfectly healthy, I decided upon making the attempt to save the limb. Having placed him on a suitable mattress with pillows, and put him fully under the influence of chloroform. I attempted the reduction of the bones. This I found so difficult (though I made a free division of whatever soft parts seemed to offer resistance), that I feared to continue the effort, lest I should inflict further injury. I then dissected the body of the astragalus from its tibio-fibular articulation; and the complete reduction of the tibia and fibula was very easily accomplished. Finding the portion of the neck of the astragalus, with its navicular articulation, undisturbed, I left it *in situ*. In removing the body of the bone, besides facilitating reduction of the bones of the leg, I felt that, with so much of its cancellated structure exposed, and the uncertainty of so large a lacerated wound uniting by adhesion, there would be a great probability of caries of the bone and other bad consequences likely to implicate seriously the whole of the ankle-joint. The integuments were brought together, except at a depending point, from which some blood still flowed. The leg was placed on its inner side, and water-dressings applied. As the influence of the chloroform passed away,

the boy complained of pain, which was relieved by an opiate. I only saw the patient three or four times afterwards; but I learnt from Mr. Richard Roberts that the progress of the case was satisfactory. The wound partially united by first intention; some suppuration from the fibular side took place; and an abscess formed near the tendo Achillis, which required opening. But little disturbance of the constitution took place, and after a few weeks he moved about on crutches; and he eventually recovered, with a stiff ankle and a shortening of rather more than an inch in the leg, requiring a high-heeled shoe. But he was able to resume his duties as a helper in the stables.

III. *Case of Complete Compound Dislocation of Astragalus outwards complicated with Fracture of a small Portion of its Inner Posterior Angle: Removal of Bone: Recovery.* William Brancker, Esq., aged 63, in perfect health, whilst galloping his pony, lost his seat from the stirrup-leather giving way, and leaped on the ground and fell, but, anxious to keep hold of the reins, attempted to stand, and then found that he had sustained some serious injury to his left foot. I found the left foot so inverted, that its inner side pressed against the internal malleolus, and produced an apparent hollow there; whilst the outer ankle formed an unnatural projection, opposite to which lay the astragalus, completely dislocated through a circular opening of the soft parts, and resting on the cuboid bone, its neck most firmly girt by the structures through which it had passed. There was neither fracture nor displacement of the malleoli: very little hæmorrhage. Efficiently assisted by Mr. Perkins, who first saw the patient, I freely divided the soft parts, and then attempted reduction of the astragalus; but the tibia and fibula were so firmly drawn to the os calcis, that I desisted from further attempts, and, with a little dissection, removed the astragalus, which had lost its articular connections with the calcaneum, ankle-joint, and navicular bone. On examining the depth of the wound, I found at its inner and posterior angle a small piece broken off; but, as this retained its vascular and ligamentous attachments, I hoped its vitality would be continued, and I did not disturb it, and it gave no further trouble. The wound was drawn together by sutures and plaster; the foot was placed on the heel, thus allowing the escape of fluids from the wound; a splint applied along the leg, with a footpiece. Everything progressed favourably, and without any interruption. The wound, in nearly its whole extent, united by adhesion. The general health suffered much less than could have been anticipated. Some gouty symtoms occurred, attended with spasm of the heart, threatening immediate death.

At the end of two years and a half, this gentleman is able to follow

the hounds; to walk with and without a stick; has some motion in the joint; and the shortening is so little, that a small addition to the thickness of the left shoe enables him to walk comfortably.—*British Medical Journal.*

ANEURISM OF EXTERNAL ILIAC ARTERY; LIGATURE OF VESSEL WITH SILVER WIRE; DEATH FROM BRONCHITIS.

(Under the care of Mr. Pollock.)

The plan adopted in the two following cases was new to this country, although it has been employed, we believe, in one case in America. Two objects were aimed at in the substitution of silver for silk or hemp in the ligature: 1st, to encourage healing of the wound by the first intention, never altogether practicable where the end of a ligature passes through it; 2nd, to lessen the risk of the occurrence of secondary hæmorrhage. The first of these objects was not attained in either of these cases, since inflammation took place in the track of the wound. As regards the other point, however, the condition of the artery after death in the fatal case must be considered favourable. The coats were not cut through; circulation had been stopped by lessening the calibre of the vessel. Mr. T. Pick, pathological registrar, has obliged us with notes of the first case.—

George H—, aged fifty-one, painter, admitted on the 11th of September, 1865. Six months ago he fancies he strained himself while opening some sheets of lead, for he felt pain in the groin at the time, and the following morning he noticed a pulsation in this situation. He has continued his work since "on and off," and a week ago he noticed a swelling at the seat of pain.

On admission there was a circumscribed, pyriform swelling in the right groin, about three inches long by two broad. It was situated under Poupart's ligament, and extended from about one inch above to two inches below it, in the course of the femoral artery, from which it could not be moved. There was a very distinct and forcible pulsation, consisting of a dilatation from above downwards; there was no distinct bruit to be heard. Pressure on the external iliac above the tumour almost, but not entirely, stopped the pulsation. The tumour could be emptied by pressure, but speedily refilled. Pulsation was much stronger in the posterior tibial of the left side than the right. There was a slight aortic murmur with the systole of the heart.

Sept. 14th.—The patient having been placed under the influence of chloroform, a semilunar incision was made just above Poupart's ligament, and the various layers of the abdominal wall having been cut through, the artery was exposed. It was then encircled by a loop of silver wire, which was tied; this completely commanded the circulation in the tumour. The ligature was cut off short, and the wound brought together with silver sutures.

15th.—Last evening he complained of pain in the belly; it however soon passed off, and he slept pretty well. He now complained of rheumatic pains in both knees and ankles, otherwise he was comfortable, Pulse was 120, full; skin warm; tongue white. The wound was perfectly quiet, and the leg, which had been swathed in cotton wool, was warm. About noon he began to complain much of cough, and his countenance began to assume an anxious expression. Mucous râles could be heard over both lungs.

16th.—His pulse was 136, thrilling; respirations 44 in a minute; mucous râles over both lungs. The wound looked quiet; no redness, but a little discharge. The tumour was consolidated. The foot felt extremely hot, and there was a discoloured visication on the top of the great toe.

17th.—He lay in a semi-conscious state, with extreme dyspnœa. Respirations 54 in a minute; pulse 128, running; mouth dry; tongue dry, brown, and furred; skin hot; face flushed. There was considerable diffused cellular inflammation around the wound, and a hard, brawny place in right flank; skin over it of a dusky red. The spot on the toe was rather less discoloured. An incision was made into the inflamed cellular tissue, and one of the sutures was removed from the wound. He was ordered brandy. His breathing became more and more oppressed and he died the same afternoon.

On examining the parts after death, there was found to be a tubular dilatation of the whole calibre of the external iliac artery just at the point where it becomes femoral. The aneurism was about the size of a peach, and on its lining wall was a very considerable deposit of laminated fibrin, whilst its centre was occupied by a clot. About an inch above the aneurism the vessel was tightly embraced by a silver ligature, which, however, had not in any way cut through or destroyed the coats of the artery. The vessel between the ligature and the aneurism, as well as above the ligature for some distance, was filled with decolorized clot, which was partially adherent to the lining membrane of the vessel. No other parts were examined.—*Lancet.*

POPLITEAL ANEURISM; LIGATURE OF FEMORAL ARTERY WITH SILVER WIRE; RECOVERY.

(Under the care of Mr. Holmes.)

For notes of the following case we are indebted to Mr. J. H. P. Wilson, acting surgical registrar.

J. W—, aged forty-three. In 1862, while carrying a piece of timber he fell with his leg under him, and strained his knee, for which he was laid up fourteen weeks. About a fortnight before admission he noticed a kind of jumping pain in the popliteal space of the right leg, which was relieved on his sitting down, but was greatly augmented in walking or moving the leg at all. The heart-sounds are natural, and he has never suffered from any illness except the accident above mentioned.

On admission, there was a large, egg-shaped, pulsating tumour, about the size of an ordinary fist (larger from above downwards than from side to side), situated in the popliteal space of the right leg. On applying the stethoscope, a distinct aneurismal bruit could be heard. The pulsation of the post-tibial artery was weaker than in the left leg.

On Nov. 2nd, Mr. Holmes first commenced flexion of the limb for two days; but on account of the severe pain it caused the patient it was discontinued, without any marked improvement having taken place.

Nov. 14th.—Digital pressure was tried for fourteen hours; but this again caused such severe cramping pains that it was discontinued. Some little deposit had, however, commenced in the sac, and the tumour was rather more circumscribed.

6th to 14th.—The tourniquet was applied for periods of three to six hours daily, with marked benefit, the tumour being much more circumscribed and consolidation evidently going on.

16th.—The tourniquet was discontinued on account of the parts of the thigh becoming so lax and the artery so movable that it was constantly becoming displaced.

Various forms of compression were tried in succession, but none were found applicable. The patient then learned to compress the artery himself, but it produced no visible effect. Then the aid of fellow-patients, assisted by the students, was called in to compress the artery for twenty minutes out of each half-hour during twelve hours per diem. At first this was thought to be producing coagulation rapidly; then the disease seemed stationary, but the bruit always continued as loud as ever. At length it became evident that the tumour was increasing in size along the popliteal space of the femur, and then it was determined to tie the vessel.

Accordingly, on Dec. 28th, Mr. Holmes cut down upon the femoral

artery at the apex of Scarpa's triangle, and ligatured it with silver wire. The wound was sewn up with three silver sutures, the leg wrapped in cotton wool, and a bandage of flannel bound round it.

29th.—Pulse 126, thready. Passed a bad night. Leg painful; wound healthy; no pulsation in tumour.

30th.—Pulse 116; tongue cleaner; foot quite warm; no pulsation in tumour, which is smaller; slight redness and tenderness at the upper and inner border of wound.

31st.—Pulse 96; wound red, but not so hard or tender; foot warm; tumour smaller and more consolidated,

Jan. 2nd.—Pulse 88; wound probed, and a large quantity of pus let out; linseed poultice to be applied.

4th.—Wound nearly healed; no more pus exuding; tumour consolidated.

12th.—The wound is quite healed. The patient to get up. There is a good deal of thickening about the ligature, owing very likely to an effusion of lymph.

22nd.—The tumour is gradually decreasing in size, and he can walk with a stick. He is to go into the country for a month.

June 23rd.—He was seen by Mr. Wilson, who remarks:—"The thickening about the ligature has disappeared. There is a tumour, about the size of an egg, in the popliteal space, very hard. No articular arteries can be detected about the joint. He still keeps the leg wrapped up in a flannel bandage, as he says it always feels cold. He is able to walk a considerable distance without limping, and has been at work for the last three months, and is now doing very heavy work—viz., pulling down a house."—*Lancet.*

SUPPRESSION OF URINE, COMBINED WITH OBSTINATE CONSTIPATION.

By N. W. J. Heath, Member of the Royal College of Surgeons in Ireland, etc.

Whilst making my usual morning visit to the steerage of the National Steam Navigation Company's steamship "*Erin*," outward bound to New York, with 700 passengers, my attention was directed to a female passenger, Mary Stines by name, aged 25 years. She had previously suffered from debility, superinduced by sea sickness, and for which, as on former occasions, having asked the usual hackneyed questions as regards bowels, stomach, head, etc., and having received satisfactory replies, I prescribed the usual remedies in such cases—nutriment and stimulants.

On this occasion such was not the case; it was a case pregnant with difficulty of diagnosis, requiring prompt and active measures to be immediately adopted.

I found her lying on her back clothed, nor do I believe she either undressed or went on deck twice in the passage so far fifteen days from land, being too weak to attempt such an exertion; she appeared semi-comatose. I immediately had her undressed and placed in hospital; and I shall now give briefly the result of my examination of her, which, although I believe true, is scarcely credible.

On examining the lungs, as well as the noise of engines would permit me, I could not detect any congestion, or inflammatory symptoms; the heart was weak, though regular.

The abdomen, I observed, was considerably enlarged for an unmarried woman; and with careful external manipulation and a vaginal examination, I could satisfy myself of her pregnancy. The colon in all its part could distinctly be traced; enlarged, nodulated, distended with scybala.

The bladder, containing fluid, could easily be mapped out. I asked her how long she had retained her urine, and with a good deal of apparent exertion to comprehend and difficulty to reply, completely astounded me when she said, to use her own words: "I have not made water since the day we left Liverpool, and my bowels have not been freed since the day before we left Liverpool." The other passengers (twenty-three) in the same room, attested the truth of this appalling statement. Be it true or not, I cannot say; but such a train of symptoms and subsequent facts incline me to the belief that she must have suffered from suppression of urine for a great length of time. The poor girl, evidently from modesty before so many people, would not attend to the calls of nature; and the parts becoming unnaturally distended, the condition I have described ensued.

I now immediately introduced the catheter without trouble, and drew off six ounces of horribly fœtid urine, something like porter in color, though of greater consistence, blackening the silver catheter. It is needless to go through the different steps of the treatment; suffice it to say, stimulants, nutriment, enemata (laxative), and diuretics were assiduously administered. Cupping over the region of the kidneys, etc., was resorted to, but with no avail. With difficulty the various remedies were continued; and about four, A.M, the next day, the face assumed a strangely death-like appearance, of a leaden hue, cold, and covered with a clammy sweat; the lips drawn over the teeth, giving the face a ghastly grin; the alæ of the nose contracted, and up to this time only two and a half ounces of urine had been obtained by the catheter. The fæces passed involuntarily; abdomen very tympanitic; constant hiccough served to annoy

her, and she was incoherent. With difficulty the stimulants were continued. She gradually sank, and at 7. 45 P.M. (thirty-four hours after my first visit) died.

I made a post-mortem examination sixteen hours after death, in conjunction with Dr. Lee, Sr., of Chicago, who kindly assisted me in the treatment of this strange case ; and found, first, the brain, especially the cortical portion, extremely congested and of a strong urinous odor, as also was her whole body when cut; lungs and heart healthy, the stomach contracted and inflamed on the inside; the remainder of the alimentary canal filled with gas. The kidneys were very large indeed, hard, and congested with blood ; the bladder, contracted and inflamed on the inside, not containing a single drachm of urine ; the uterus contained a five months' fœtus.

I regret deeply that I had no means of testing the urine, or miscroscopically examining the kidneys at sea.

In conclusion, I will mention that at sea, from my experience, which has been quite extensive, I have frequently seen constipation for twelve, fifteen, and even twenty days, without any evil results, or even inconvenience ; but never have I even read, heard of, or seen a case parallel to the one I have now described.—*Medical Record.*

Medicine.

HYDATID OF THE LIVER, TREATED SUCCESSFULLY BY THE INJECTION OF THE EXTRACT OF MALE FERN INTO THE CYST.

Harriet V., a woman of pretty healthy appearance, aged twenty-one, admitted into Mary Ward, under the care of Dr. Pavy, October 4, 1865. When three years old she was squeezed against a wall by a cart wheel, which struck her somewhere on the right side of the chest. No rib was fractured, and she soon recovered from the accident. About six years ago the patient noticed a slight swelling in her right side, which has since continued gradually increasing in size. On examination, a large deep-seated tumour was to be noticed occupying the r ght hypochondriac region, and extending considerably beyond, both above and below. Its boundary could be clearly defined inferiorly. It caused a considerable bulging of the ribs on the right side, and the right mammary gland was raised about three-quarters of an inch above the level of the left. Fluctuation was apparent. Dulness extended as high as the lower

border of the second rib on the right side. The case was diagnosed to be one of hydatid tumour of the liver. The relationship that is agreed upon by helminthologists to exist between the hydatid and the tænia, and the known effect of the extract of male fern upon the latter, suggested to the author the treatment adopted. The extract is not miscible with alcohol or water, but it was ascertained that a liquid sufficiently thin for passing through a fine canula was to be obtained by admixture with a little potash. November 6th.—A fine trocar and canula were introduced into the tumour by Mr. Durham, and about four ounces of a limpid colourless fluid allowed to escape, in order to diminish the tension of the cyst. A liquid consisting of half a drachm (by measure) of the purified semi-fluid extract of male fern, half a drachm of liquor potassæ, and six drachms of water, was then injected into the sac, care being taken throughout to prevent the entrance of air. The fluid removed was examined, and found to be non-albuminous, charged with a large quantity of the chloride of sodium, and to contain hooklets of the echino-coccus. At the introduction of the trocar the patient complained of experiencing a considerable amount of pain, which she referred to the lower part of the abdomen. Some febrile excitement, vomiting, and purging followed, but there was no evidence of peritonitis. 10th.—On percussion, it was found that dulness did not extend so high in the chest on the right side by one rib as previous to the operation. 16th.—The patient was allowed to get up. 20th—The tumour was found to be much diminished in size. It was much softer, did not extend so low down in the abdomen, and was much less distinctly circumscribed. The chest was resonant on percussion as low as the space between the fourth and fifth ribs. 29th.—The circumference over the most projecting part of the tumour before the operation was $34\frac{1}{4}$ inches; to-day it is $31\frac{3}{4}$ inches, showing a reduction of $2\frac{1}{2}$ inches. Tumour very soft, and its lower border not to be defined as formerly. The patient, being well, was allowed to leave the hospital. A fortnight and again a month afterwards she was seen, and found to be progressing satisfactorily. May 10, 1866. —Since she was last seen the patient had suffered from an attack of rheumatic fever, with heart complication and bronchitis. She had been in no way troubled with her side, and her circumference now was 30 inches. No swelling was perceptible to the eye, but a hardness remained in the hypochondriac region. The inference to be drawn from the result in this case is, that the injection of the extract of male fern caused an immediate destruction of the life of the hydatid without the production of suppuration, and that a rapid absorption of the fluid element of the cyst afterwards took place.—*Medical Times and Gazette.*

Midwifery and Diseases of Women and Children.

NOTES OF A CASE IN WHICH EVULSION OF THE UMBILICAL CORD OCCURRED AT BIRTH.

By G. De Gorrequer Griffith, Physician to the Hospital for Women and Children, Pimlico, &c.

On Sunday evening, July 8th, I was summoned to attend Mrs. ——, who was in labour with her first child. I attended almost immediately; and, on my arrival, I was told that my services would not be required just yet, as the pains had come on only within the last two hours. I forthwith entered her room. At the very moment I did so, she had a very strong bearing-down pain; and I told her that she had better lie down as soon as the pain was over. While yet in pain, she attempted to get on the bed; but, as she made the effort, she called out that the child was in the world; and, before I could endeavour to catch it, the little thing fell upon its head with some force, and rolled upon the floor.

I noticed that the child was quite livid; that the cord had been torn from the abdomen; and that the child was apparently lifeless. The blood spurted out from the umbilical aperture; and before I could render any assistance, some little quantity was lost. The child seemed to be in a state of syncope, very soon lost its livid hue, and became all over deadly pale. As quickly as I could, I seized the integument surrounding the umbilical aperture—there was not a vestige of the cord—and tied it as tightly as I could, which I was enabled to do, owing to the state of the syncope of the child, by which it was prevented from feeling any pain. It was tied so effectually that the thread did not slip off, nor was disturbed when the child began to cry and move.

No ill effects obtained to the mother, and the placenta was easily removed.

As the case I have described is of extreme rarity, and as I do not know of even one similar to it being on record, I have thought it fit to bring it forward.

The treatment in this case was extremely simple: first, because of the syncope into which the child fell; and secondly, because of the lax condition of the abdominal integuments affording an opportunity of securing the ligature tightly.

I need not here dwell upon the difficulty usually attendant upon deligating the integuments surrounding the umbilical aperture in the

abdomen when the accident of which I speak has occurred, inasmuch as it must be impressed upon the mind of each of those practitioners who have been consulted in such circumstances.

Syncope in infants is a rare occurrence. I mean true syncope resulting from concussion of the brain, and not merely that imperfect state of animation which so often obtains at birth, and is manifested by feeble action of the heart, and an uncertain state of the entire system, which, as it were, oscillates between life and death. A condition of coma, or semi-coma, is by no means so infrequent. One case of complete coma occurring in the infant at birth, as the result of compression during labour, and lasting for two days, then terminating in death, has recently come under my notice.

"Only one instance," says Dr. Underwood, "have I seen anything at all resembling the true syncope after the living powers have once prevailed. In this case, the child was born at the instant its mother was moving from her chair into her bed, and, in consequence, fell with violence on the floor; it, however, very soon cried, and did not appear to be very materially injured, but, a day or two afterwards, fell into a strange languid state; it revived, but at intervals sank into its former languor, and breathed very faintly, and died about the sixth day."

Mr. Hey, of Leeds, communicated to Dr. Underwood the notes of a case of an infant which, born at full time, lay moaning and languid for four or five hours, and was then seized with a fainting fit, in which it continued for half an hour. It had ceased to breathe, except now and then giving a gasp or sob, and was as pale as a corpse. There was, however, a sensible pulsation of the heart, though feeble and slow; but whether the circulation had been kept up all the time previous to his (Mr. Hey's) visit, could not be ascertained. The child was revived by the use of stimulants, but had three other similar attacks in the course of the day, though it had slept composedly between whiles, and sucked at the breast. It had seven more fainting fits in the night. The infant became a very healthy child.

On the fourth day of the existence of my patient, that portion of the integument outside the ligature showed signs of vitality having ceased in it; and on the fifth day it came away, leaving a round evenly cut wound in the skin of the abdomen, surrounded by a ring of inflammatory redness.

All the time of my attendance (nine days), the child did well; had no untoward symtoms; and the wound was healing rapidly when I took leave of my patients.—*British Medical Journal.*

PRECOCIOUS MENSTRUATION.

Dr. T. Parvin (*Cincinnati Journal of Medicine*, Aug., 1866,) refers to a case of premature menstruation in a girl 4½ years old, which function had been carried on a year. He says: "The mother of this child is under medium size, very delicate; menstruated first at twenty years of age; married at twenty-four, and two years after marriage gave birth to this her only child. The general appearance of the child is that of a stout healthy girl of ten or twelve years; her weight is seventy-five pounds; her height three feet eleven inches; her voice is rather coarse and harsh, at any rate it has not the softness and gentleness of infancy; her physiognomy is that of early childhood; she is timid and "babyish" —mentally and morally she presents none other than the characters which might be expected in one of her age. But her most marked physical chracteristics, as will be conceived, are those of the sexual sort. The mons veneris, though destitute of hair, and the labia, are well developed, and the mammary glands are quite large and well-formed; indeed in size they might answer very well for one of sixteen or eighteen years of age. The circumference of the chest, measuring over the mammary glands, is twenty-seven inches; a line encircling the lower part of the trunk, and fixed at either side at the middle of the crest of the ilium, measures thirty-one inches. The menstruation recurs regularly, and continues three days; she does not seem to have any special suffering at these times; the amount of catamenial discharge is about equal to the average observed in the adult during the same length of time."

ETHER SPRAY IN MIDWIFERY.

In the Glasgow Lying-in Hospital local anæthesia by etherial congelation has been tried experimentally on several occasions. The apparatus for producing the spray is a modification of that of Dr. Ricardson, and is found to answer remarkably well. It is worked by the foot, instead of the hand, as in the ordinary spray producer. The advantages which the pedal bellows has over the manual are, that the ether spray can not only be projected with greater force and regularity, but the instrument can be worked with little or no fatigue. The ether spray has been freely applied over the lumbo-sacral region with the view of mitigating the pains of parturition. It has also been applied over the hypogastric region in a case of hæmorrhage, with the view of producing uterine contraction after delivery. In one case of very severe *post-partum* hæmorrhage, with a relaxed state ef the uterus, the frigorific effect of the ether spray was so great, as to induce immediate and per-

manent contraction. It is believed that in cases of lingering and tedious labour, the application of the spray may have the desirable effect of rousing the organs at fault into increased activity. This has not yet been tried, but an early opportunity will, undoubtedly, be taken to bring the matter to the test of experience.—*North British Daily Mail, Aug.* 1.

Materia Medica and Chemistry.

DISCOVERY OF A QUININE-LIKE SUBSTANCE IN THE ANIMAL BODY.

Dr. Bence Jones has by a series of experiments made out the existence in the different animal tissues of a substance that is identical with quinine. This discovery was rather accidental. He started in his investigations with the desire to detect the presence of quinine in the animal body. For this purpose the test that he adopted was "that peculiar influence (fluorescene) of this alkaloid on the refraction of light, whereby it makes the dark part of the spectrum beyond the violet rays luminous." He administered quinine to a guinea-pig, and was able to detect its presence by means of the test "in the blood crystalline lens and other parts." But he found that every part of the "non-quinized" animal—heart, liver, kidney, and lens—when treated like bark in such a way as to dissolve out and purify any alkaloid that might be in them, gave the same spectral reactions as similar solutions did from the animal that had taken quinine." Continuing his investigations, he soon found that all the tissues of the body contained this quinine-like substance, and that its quantity was temporarily increased by administering the alkaloid. It was shown by this means that quinine, in a very few minutes after its administration, passes into every tissue of the body; that its maximum effect is produced in two or three hours, and then decreases till it disappears in about seventy-two hours. "The demonstration of its presence in the crystalline lens gave ground for hope that substances might be found hereafter to remedy perverted nutrition of the non-vascular tissues —as cataract, and even the deposits of gout in cartilages."—*Med. Times and Gazette.*

Magnesium in Toxicological Experiments.—M. Roussin proposes the use of magnesium instead of zinc in toxicological examinations. It completely precipitates the poisonous metals without the danger of introducing them through the reagent. Arsenic and antimony are not precipitated, but will be found in the gas disengaged. Cobalt, nickel, iron, zinc, manganese, chromium, silver, gold, platinum, bismuth, tin, mercury, copper, lead, cadmium, and thallium are precipitated from their solutions.

MEDICAL NEWS.

Preparation of Nitrite of Potassium.—M. Erdmann gives the following process for the preparation of nitrite of potassium. He recommends the fusion of the nitrate of potash with several times its weight of iron filings or borings in a cast-iron crucible at a carefully regulated red-heat. When a small portion taken from the crucible and tested shows a strong evolution of nitrous acid, the mass is poured from the crucible. When cold the mass is dissolved, and then the undecomposed nitrate is removed by crystallization; the liquid is then supersaturated with nitrous acid, and afterwards evaporated to dryness. The following process, which was published in the *Chemical News*,* the reader will no doubt see that the nitrite of potassium will be applicable to the purpose for which nitrite of sodium is used in the British Pharmacopœia—viz., sp. ether nitrosi. Nitrite of potassium is, we believe, more easily purified than the sodium salt.

New Test for Glucose in Diabetic Urine.—MM. Francqui and Vyvere prepare a test solution as follows:—Nitrate of bismuth is precipitated by a considerable excess of potash, and the mixture is moderately heated and tartaric acid added, until the precipitate at first formed is dissolved. The reagent is then ready. A few drops of this test boiled with diabetic urine gives a black deposit of metallic bismuth.—*Chemical News.*

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* Taken from a paper on the nitrous compounds of cobalt and nickel.—*Jour. fur. Prakt. Chem.*, No. 7, 1866, p. 387.

Canada Medical Journal.

MONTREAL, OCTOBER, 1866.

MEDICAL EDUCATION.

The character of all educational institutions is based on the capability of the men they send forth to usefulness amongst the community. It is the character sustained by her graduates both at home and abroad that has given to McGill University the proud position of holding the first rank amongst Universities in Canada, if not in America. This position has been for years past accorded her, and the large attendance of students each year at her classes attests the opinion held of this University by the community. Hitherto the duties of instruction and examination have been performed by her faculties; and the consent is general that these duties are faithfully performed, inasmuch as the honours she offers are sought for, worked for, and obtained by worthy competitors.

In speaking of the Medical Faculty, we say, without fear of contradiction, that the sacred trust held by it has been in good keeping, and the duties of that faculty performed, in a manner which has augmented the value of the degree conferred by the University on their recommendation.

Within the past eighteen months the profession of Upper Canada sought and obtained an act of incorporation, under which act "The General Council of Medical Education and Registration" has been formed. The object of this act was not in any way to clash with, or abrogate any of the privileges held by established universities, more especially of institutions holding the position and rank of McGill College. At the last session of Parliament an amendment to this Act was sought, having the effect of depriving all Canadian Universities of the right of preliminary examination. Why these powers were sought seems obvious; it was not in the interest of the profession at large, not in the interest of the students, but simply and only in the interest of Upper Canada institutions, who, with diminished capabilities of instruction, are unable to compete with the older and more advanced system of education pursued by McGill College. The Medical Council deemed it advisable to insist on proof of a preliminary examination having been passed by the candidate for registration before their own nominee, prior to said

enregistration, and this to date from the first day of May, 1866. The Medical Council had no actual existence before the 4th May, 1866, because, although elected in January, they met for the purpose of constituting themselves an official body only on the 4th May of this year. And yet they sought powers from the Legislature to date back prior to their actual existence, and to take effect from the first of May of this year. Such was the amended Act sought for by the Medical Council, and its operation would have been a gross injustice to the Universities, inasmuch as it closed the door against all graduates, of whatever College, who commenced their studies during that year. We copy two clauses from the bill as introduced by the Honble. Mr. Campbell:

"Every person claiming to be registered under the said Act, as being qualified under the third paragraph of Schedule A, thereto appended, and who had not regularly attended lectures in some medical college or school, before the first day of May, one thousand eight hundred and sixty-six, must pass the matriculation examination, and complete the *curriculum*, prescribed by the general Council of Medical Education and Registration of Upper Canada, hereinafter referred to as "The Council," before he shall be registered under the said Act; and he shall pass such examination at the time and in the manner directed by the Council.

"Students who may commence regular attendance at lectures in any medical college in Canada, during the year one thousand eight hundred and sixty-six, may present themselves for matriculation examination, at any of the stated periods which the Council may appoint for holding such examinations, before the month of September, one thousand eight hundred and sixty-eight."

Now, we simply submit that the Medical Faculties of the various Universities of Canada are quite equal to examining their students on the various branches of preliminary education,, why should they be deprived of their right to examine students on preliminary subjects; surely, they are as capable of judging as any person to be nominated by the medical council. It is a time-honoured custom to submit all candidates to preliminary examination before entering on a College course; it is a custom pursued by all colleges and universities in Canada, and any alteration of this custom must be viewed with jealousy; it is but the beginning of further changes likely to be sought by the Medical Council, and in no way conducive to the elevation of the standard of the profession.

These remarks have been suggested by a somewhat unseemly attack by the President of the Medical Council on "a certain College "in Canada not in the Upper Province," of what he is pleased

" to style, factious opposition, not in the interests of the students, " not in the interest of science, but merely because the Professors of " that College dreaded that the regulations of the Council would have " thinned their classes by diminishing the number of students, and that " consequently the revenue which they derived from the manufacture " and sale of Degrees would be wonderfully curtailed." This is so grossly untrue that it needs no comment; it is a style of pompous declamation which to any person of ordinary intellect will carry no weight. It can be passed over in silence, but with sincere regret that a person occupying the position of the utterer should so lower himself. 'Tis true that a College in Canada and one in Lower Canada, did " set itself in a hostile attitude to the Medical Council,"if the Medical Council were the promoters of the bill in question, and it is well that the profession in Upper Canada had men who were sufficiently independent to oppose a narrow minded policy, which would have been a gross injustice to many members of that profession in actual practice. We can with justice apply the words of the *respected* President of the Medical Council as to McGill University, " we do not dread honourable rivalry, we do not seek " extraneous aids" we do not wish to be judged otherwise than by our works, " we desire to stand or fall by our own merits," but we do not desire to see a flagrant act of injustice perpetrated on Lower Canadian institutions and students, however desirable it may be to elevate the status of preliminary examination. As the Act stands at present the object will be fully attained, and we expect to see the day when our young men will go forth from our halls of learning, capable of competing educationally with any class of men in any community, McGill College has a name amongst the people of Upper Canada a, name which is respected, and which carries weight ;, we regret to see an attempt made to undervalue the position held by that University. It is a subject of remark that our students are capable of competing successfully with those from all the other colleges in the country, and this position is held in consequence of the careful discrimination in the award of her honours. The teaching in this school will favourably compare with that of any college or university in the world. This has been fully acknowledged by those most competent to judge. It is then much to be regretted that a gentleman occupying so high a position as does *the talented and learned president of the* Medical Council of Upper Canada, should speak so disparagingly of a rival institution. We are all engaged in the laudable effort of promoting the best interests of the science of medicine and surgery, and it is not by extraneous efforts at depreciation—mere verbose assertion—that men will be hoodwinked into believing that there is no good thing outside of Kingston.

By the action of our Legislature three new colleges have been established in Upper Canada, so that the Upper Canadians have now eight licensing bodies all with separate and distinct interests; these colleges are under the supervision of the Medical Council, but as long as they comply with the regulations imposed by that body, so long will they be capable of examining their own students, and of passing as many men qualified or otherwise as they please. We regard with regret this additional number of licensing bodies, and hope and trust that it may not lead to a loose method of teaching and of examination; if so, much injury will be done to the profession at large, and the very character of Canadian medical institutions will deteriorate. It is this system of multiplying medical colleges in the United States which has injured the character of the profession there. This cannot altogether occur in Canada, while the law stands as at present, because the educational course is longer—six months' lectures on each branch constituting a full course, and two full courses, except in the case of Medical Jurisprudence, extending over four years, being requisite. Still, as we before said, we regard with regret this multiplying of medical schools, and cannot see that at present, with a population of under three millions, there is any necesssity for additional medical schools. In saying this, let us not be misinterpreted: we hold that so long as the teaching is conducted as at present in McGill University, so long will that institution maintain her position of being the first medical school in the Province of Canada. Let Kingston and other schools take the hint, and regulate their course of study in this particular with wisdom.

DR. LOUIS BAUER, OF BROOKLYN, N.Y.

This gentleman recently visited our city on his own private business, and while in Montreal, he was induced to deliver two lectures in the University rooms on the subject of "Orthopedics," which were attentively listened to by some of the leading members of our profession, and a large class of students. In the evening, after the second lecture, the Doctor was entertained at supper, by his *confrères*, at the Montreal Club, presided over by the Dean of the Medical Faculty, McGill University, on which occasion there was an interchange of sentiment of regard and esteem most pleasurable to witness, and honourable to all concerned.

In the course of some remarks made by the Doctor, he said: "As physicians and surgeons, we belong to no particular race or country, owed no special allegiance to any sovereign or state; that we were the subjects of science; our calling was of a God-like nature, as it had for its chief object the alleviation of the misery and suffering of our fellow-

beings. He had been in many countries, and in all he felt proud in saying he had been met by men of science with that hearty will, which bears evidence of a liberal spirit of emulation and desire for knowledge, which is the guiding star of all true devotees of science."

Dr. Bauer is well known as a surgeon of eminence, in the specialty to which he more particularly confines himself. He possesses a truly logical mind, is an original and free thinker, not being bound down by any medical dogma; his great desire is truth. Although of foreign birth and education, his use of the English language is pure, and proclaims at once the scholar and the gentleman. His views and treatment he had ample opportunity of illustrating at the several hospitals in this city, as also on some private individuals, the results of some of the cases submitted to his knife were most satisfactory. The Doctor returned homeward on Tuesday, 23rd October, carrying with him the respect and esteem of all who had the pleasure of becoming acquainted with him, and the sincere hope that his life may be long spared to continue a career of usefulness, and of elevating the standard of that profession, of which he is a bright ornament and devoted follower.

Inspector-General Joseph Skey, M.D., on the half-pay list, and late physician to the forces, died at Baker Street, Portman Square, on the 18th September, in his 94th year. His commissions bore date as assistant-inspector or physician, July 18th, 1805; brevet deputy-inspector, December 11th, 1823; deputy-inspector-general, October 26th, 1826; and inspector-general, February 15th, 1839. He was for many years stationed at Quebec.

Insanity consequent on the American war.—Governor Humphrey, of Mississippi, reports officially that the insane asylums of that State are crowded with negroes, whose minds have become deranged in consequence of the excitement of the war and changes and privations consequent upon their sudden transfer to a condition of freedom and responsibility. There is much insanity also among white people throughout the South, caused by the excitement and afflictions of the war.

Dr. Ricord, Member of the Academy of Medicine, etc., has been nominated Officer of Public Instruction.

Professor Matteucci.—The Academy of the Ten, a scientific society existing in Italy since the last century, has unanimously elected Professor Matteucci to be its president.

Death of a Medical Veteran.—The death is announced of M. Maria, said to be the last survivor of the French fleet at Trafalgar. He was then Surgeon of the *Formidable*.

REPORT OF DISEASES AND ACCIDENTS TREATED IN THE MONTREAL GENERAL HOSPITAL, FOR THE YEAR ENDING 30TH APRIL, 1866.

Diseases &c.	Discharged.	Died.
Abortio	1	
Abscessus	18	
Acne	1	
Albuminuria	3	
Amaurosis	1	
Ambustio	8	
Amputatio brachii	2	
" humeri	1	
" cruris	1	
Amenorrhœa	5	
Anæmia	2	
Anasarca	3	
Aneurismus	1	1
Anthrax	3	
Apoplexia		1
Ascites	3	
Balanitis	1	
Bronchitis Acuta	23	2
" Chron	12	2
Bubo	1	
Bursitis	4	
Calculus Vesic	1	
Carcinoma	1	1
" Uteri	3	3
" Ventriculi		1
Caries	3	
Cataracta	2	
Catarrhus	7	
Cerebritis		1
Chlorosis	1	
Cicatrix Faciei	1	
Concussio Cerebri		2
Colica	1	
Congestio Pulm	1	
" Cerebri		1
Contusio	26	
Constipatio	2	
Conjunctivitis	10	
Cystocele	1	
Cystitis Chron	1	1
Dacryocistitis	3	
Debilitas	25	1
Delirium Tremens	13	
Diarrhœa	17	
Diabetes	2	1
Dyspepsia	16	
Dysenteria	4	
Ebriositas	15	
Ecthyma	3	
Eczema	8	
Emphysema Pulm	2	
Empyema	1	
Enteritis	1	
Epilepsia	12	
Epithelioma	3	
Erythema	3	
Erysipelas	16	1
Favus	8	

Diseases, &c.	Discharged.	Died.
Febricula	63	
Febris Intermitt	13	
" Typhoides	26	6
" Typhus	4	
" A potu	11	
Fistula in Perineo	4	
" Recto-Vaginal	1	
Fractura Clavic	3	
" Costarum	3	2
" Cranii	1	
" Femoris	2	
" Fibulæ	3	
" Humeri	2	
" Maxil. Inf	1	
" Metacarpi	1	
" Pelvis	1	
" Phalangis	1	
" Radii and Ulni comp:	2	
" Radii	5	
" Tibiæ	8	
" " (Comp:)	2	
" Ulnæ	2	
" Vertebræ	1	
Furunculus	4	
Gastritis		1
Gelatio	4	
Glaucoma	4	
Gonorrhœa	13	
Hœmoptysis	1	
Hœmorrhoides	6	
Hernia	7	
Hemiplegia	4	
Herpes Zoster	1	
Hysteria	10	
Hydrocele	2	
Hydrocephalus		1
Hypochondriasis	1	
Ictus Solis	1	
Icterus	6	1
Iritis	2	
Impetigo	1	
Keratitis	3	
Labium Leporinum	1	
Laryngitis Acut	3	
" Chron	1	
Laryngo-Trachcitis	1	
Leucorrhœa	2	
Lumbago	4	
Lupus Non Exedens	1	
" Exedens	1	
Luxatio Ulnæ	2	
" Humeri	1	
" Tali	1	
" Radii	1	
Mania Acuta	3	
Mastitis	2	
Menorrhagia	2	
Meningitis Ac		1

DISEASES AND ACCIDENTS.—*Continued.*

Diseases, &c.	Discharged.	Died.	Diseases, &c.	Discharged.	Died.
Metritis Ch	1		Rheumatismus Ac	27	
Morbus Brightii	5	5	" Chron	25	
" Cordis	13	6	Rubeola	2	
" Vertebræ	1		Scabies	29	
" Coxæ	4		Scarlatina	4	1
Necrosis	2		Sciatica	4	
Neuralgia	1		Staphyloma	2	
Onychia	5		Strabismus	1	
Ophthalmia	47		Strictura Ureth	6	
Orchitis	3		Stomatitis	1	
Paronychia	6		Subluxatio	8	
Parotitis	2		Syphilis	47	1
Paralysis	3	2	" Consec	13	
Periostitis	5		Synovitis Ac	9	
Pericarditis	1		" Chron	5	
Phthisis	41	19	Tabes Mesenterica	2	
Pleurodynia	2		Talipes Varus	1	
Pleuritis Ac	3		Tetanus		1
" Chron	1		Tonsillitis	5	
Pneumonia	16		Tumour Ovarii		1
Polypus Antri	1	4	" Uteri	1	1
Polypus Auris	1		" Mammæ	1	
" Uteri	1		" Var	6	
Psoriasis	4		Ulcus	49	
Purpura Hæmorrh		2	Variola	20	2
Pyæmia		1	Varioloid	2	
Retinitis	2		Vulnus	35	1

TOTAL,.....Discharged, 1039; Died, 78

OPERATIONS, &c., DUPING THE YEAR.

Major Operations.

Removal metacarpal bones, 1. Excision of the knee joint, 1; ditto Superior Maxilla, 1; ditto portion of ditto, 1. Amputation of leg, 1; ditto of feet, 2; ditto of arm, 3; ditto of forearm, 3; ditto of breast, 1. Excision polypus of uterus, 1. For recto-vaginal fistula, 2. Extraction of cataract, 2. Perineal section, 3. Excision parotid tumour, 1; ditto mammary ditto, 1; ditto axillary ditto, 1; ditto perineal ditto, 1. Ligature posterior tibial artery, 1. Tenotomy, 3. Laryngotomy, 1. Lithotrity, 2. Tapping of chest, 1. Excision of eyeball, 1. Total 34

Minor Operations.

Removal of foreign body from eye, 1; ditto of pterygium, 1; ditto of epithelioma, 3; ditto of hæmorrhoids, 5; ditto of nasal polypus, 1; ditto of venereal warts, 1; ditto of tousils, 3; ditto of ganglion, 1; ditto of cystic tumours, 1; ditto of finger, 7; ditto of toe, 2; ditto of toenail, 1; ditto of metatarsal bones, 1; ditto of phalanx, 4; ditto of staphyloma, 2. Hydrocele tapped, 7. For strabismus, 8; ditto of harelip, 1; ditto of fistula in ano, 2. Puncture of cornea, 2. Plastic

operation on face, 1. Iridectomy, 4. Eye styles inserted, 5. Circumcision, 3. Teeth extracted, 262. Incisions, 116. Cuppings, 20. Catheterism, 175. Setons, 3. Venesections, 2. Wounds dressed, 210. Total, 855.

Dislocations reduced.—Of humerus in axilla, 1. Of elbow, 1. Of Lower jaw, 1. Total, 3.

Fractures treated.—In-door: simple, 36; compound, 4. Out-door: simple, 5. Total, 40.

ATTENDING PHYSICIANS.

During first Quarter.....Drs. Fraser and Reddy,
" second " ..... " Scott and Wright,
" third " ..... " MacCallum and Fenwick,
" fourth " ..... " Howard and Craik.

RESIDENT MEDICAL OFFICERS.

Joseph Drake, M.D., House Surgeon; Herbert S. Tew, M.D., Apothecary.

A Scene.—On a recent market day, at the quiet town of Callington, an amusing scene occurred. It appears that one of the gentry who vends worm lozenges was expatiating on the virtues of his nostrums, and in relating instances of their curative powers, he mentioned with no small delight a case in which he had been the means of saving the life of a patient of the greatest physician in the West of England, Dr.——, who had dismissed the patient as incurable. Unfortunately for the quack; "the greatest physician in the West of England" was passing near his stall at the time, and hearing his name mentioned was naturally arrested at the sound, and listened. The doctor's temper was roused, and, just saying, "Let me get at him," he then and there administered sundry kicks on the nethermost person of the unfortunate quack, which had the effect of putting him *hors de combat.* Roars of laughter greeted the onset of the valiant doctor, in the midst of which the vendor beat a hasty retreat. The doctor enjoyed the scene as much as the bystanders, and related the circumstance with much gusto many times during the day. (*Western Mercury.*)

From an interesting report of the committee on army and navy medical officers' affairs it appears that the total number of candidates examined for the Army Medical Service since 1856 is 922. Of these 713 were passed and 209 rejected. The total number of candidates examined for the Naval Medical Service since 1856 is 569, of whom only 389 were found qualified. During the past year there were only 17 candidates, of whom seven were rejected.

CANADA

MEDICAL JOURNAL.

ORIGINAL COMMUNICATIONS.

Notes of Cases in Practical Medicine. By A. H. David, M.D., L.R.C.S., Edin.

Eczema—Is a very common disease of children in this country, and is generally looked upon as a sign of health, and therefore a disease that should not be interfered with; but with the improved knowledge we are daily acquiring, the sooner this idea is exploded the better; and of late years I have been in the habit of advising parents of children afflicted with this complaint that have occurred in my practice, to allow me to try and arrest a disease, which is so very disfiguring; and by the simple treatment I have adopted, have succeeded in curing every case. I may premise that various names have been given to this disease. *Eczema*, *Datre*, *Tinea*, and in this country, among the French Canadians, with whom it is a very common complaint, it is called *La Rifle* or *Reefe;* and it is especially among these people the absurd idea prevails that it is wrong to attempt to stay its progress. It appears, or shows itself, in children at the breast of three, five, or eight months of age, and again in children of two or three years of age, and also at the period of cutting the last double teeth.

I shall not in this paper attempt to enter into a description of the varieties of this disease, as laid down by authors; but simply describe the form as it has generally presented itself in the cases I have met with. The first thing which attracts the attention of the mother is the child's constantly putting its hands to its head, as if it were suffering from *pruritis* or *itching;* soon after which an eruption of small vesicles appear. These vesicles contain a small globule of limpid serum, and usually correspond with the minute projections whence the hair issues: when these small vesicles are burst, from the child's scratching, a drop of serum escapes, and presents a yellowish scab, which, being soon thrown off, leaves a little pink spot, alternately dry and moist, with a white circle round it.

When the spot is moist, a very minute pore is perceived, from which a small quantity of serous fluid distils, which, on drying, leaves a scab the size of a pin's head. Sometimes, also, layers of the cuticle, altered in their structure, and thickened from the dried fluid of the vesicles, are detached from the skin, and form the scabs, which increase in thickness and size as the eruption continues. It is at this stage that a fresh eruption of vesicles takes place, and from the head spreads over the temples, ears, and face. The swollen scalp, indeed, pours out a profusion of viscid fluid, which glues the hair into masses, and form, in drying, a yellowish-brown incrustation. It is in this stage of the disease, according to *Rayer*, that the child is tormented with irresistible itching, which cannot be expressed by words, and which gains so in intensity, that it rests its little head upon its shoulders, and if its hands are at liberty, scratches itself with the greatest imaginable eagerness, although the blood follows the nail.

When children who suffer from this disease are properly attended to, and judiciously treated, the disease will disappear within three or four weeks; but if left to itself, under the erroneous impression that it is wrong to interfere with the eruption, it becomes chronic, and the bulbs of the hair inflame and lose their functions. I cannot but admit, however, that it is a recognised fact that children who labour under this disease rarely or ever suffer from convulsions or diarrhœa while teething; but should the discharge cease suddenly, either naturally or in consequence of ill-timed medication, the child becomes restless, dejected, and evidently unwell, and diarrhœa or convulsions do follow; and it is from this, I presume, the disease has become to be looked upon as a salutary one, and not to be interfered with—for although the itching distresses the child very much, the mother is the principal sufferer, as her vanity is wounded by the hideous crusts which cover the face of her child.

The treatment which I have used with the greatest success for many years, is simply keeping the parts constantly bathed with a solution of the sulphuret of potass (℥ ss. to ℥ ij. to ℥ viij, water), and giving internally a few drops according to the age of the child of liqr. potassæ, three times a day and I have not failed in a single case where the lotion has been properly applied, and the medicine regularly given. Of course the bowels must be properly regulated at the same time, and care taken that the child is not overfed. I have not seen any, or a single, bad consequence follow this mode of treating the disease, and invariably found my little patients, after cure, quite remarkable for the freshness of their colour and the excellence of their health.

42 Beaver Hall Terrace.

Fracture of the Lens: Does it occur in Death from Violent Hanging?
By GEORE E. FENWICK, M.D., Demonstrator of Anatomy, McGill University, &c.

In the September number of the New York *Medical Journal*, there will be found a paper by Dr. Ezra Dyer, of Philadelphia, entitled "Fracture of the Lens of one Eye, and of the Anterior Capsules of both Eyes, from Death by violent Hanging." It appears that in the case of Anton Probst, who was executed on the 8th June last, the Doctor made ophthalmoscopic examination of the eyes about thirty-five minutes after the drop fell. This examination was conducted in the most careful and scientific manner; first with the aid of an oil lamp, and subsequently with a powerful electric light from a battery of thirty-six cells. The result of this examination was that in the right eye there existed a line running transversely across the lens a little below its centre; from it, at various angles, ran short and long fine lines, very near together, but not regular; these lines, when illuminated, presented "the appearance of a crack in a cake of clear ice." It was taken to be fracture, involving the capsule, and extending in a horizontal plane backwards into the substance of the lens itself. The left eye presented much the same appearance, only less in extent; the line of fracture had very short lines, running upwards and downwards, very close together, requiring a powerful glass, and, when seen, presented a feathery appearance.

The eyes were carefully removed, and four hours afterwards examined anatomically, when the condition above described was found to exist.

This singular appearance led Dr. Dyer to perform experiments on three dogs, two of which, after being put to death by hanging, exhibited the same peculiar appearance, viz: fracture of the substance of the lens. The other dog died in prolonged convulsions, and in him no lesion of either lens was observed.

It was noticed that the greatest lesion existed on the side opposite to that on which the knot in the rope was placed.

This is perhaps the first time that such a lesion has been observed; and I am at a loss to conjecture how fracture of the lens, as described, can possibly occur.

Dislocation of the lens has been met with, and is described by authors generally as the result of direct violence. Cases are mentioned as occuring from falls; and, in some instances, there has been noticed rupture of the sclerotic coat of the eye, with dislocation of the lens, which passes out through the fissure, and is found beneath the conjunctiva. The lens has also been found dislocated into the anterior chamber. But fracture

of the substance of the lens is an occurrence so incomprehensible, that it has never been conjectured to occur, and is consequently not mentioned by authors. I can well understand, in the shock of the fall, that tearing of the capsule of the lens might occur; it would, indeed, be very likely to happen, as the capsule of the lens is described as transparent, highly elastic, and brittle. The peculiarity of this membrane is that, when ruptured, the edges roll up, with the outer surface innermost, so that if, as is described, there had been rupture of the anterior capsule, consequent on the shock of the fall, I cannot see how the lens did not slip out. I should think any force sufficient to tear the capsule of the lens would be quite sufficient to rupture the suspensory ligament of the lens itself. How the substance of the lens became cracked and split up like a cheval glass is still more difficult of comprehension, unless Probst and the two dogs had lenses of peculiar construction for the occasion; because anatomists describe the lens as consisting of concentric layers, of which the external, in the fresh state, are soft, resembling somewhat gelatine or paste. Furthermore, the concentric layers are capable of demonstration only by boiling the lens in water, or steeping it in alcohol.

These reflections were made at the time I read Dr. Dyer's paper. I have since had an opportunity of examining the eyes of the criminal Mack, who suffered death on the 23rd instant. In this case the length of the drop was six feet; and, on *post mortem* examination, it was found that the second cervical vertebræ was torn away from its attachment to the third, the medulla was torn across, and the os hyoides with tongue severed from its attachment to the thyroid cartilage: there was general congestion of all the viscera.

Through the kindness of the gaol physician, Dr. Beaubien, I procured both eyes, and examined them carefully with the ophthalmoscope, and subsequently anatomically. Nothing abnormal existed; the corneæ were not as transparent as during life, a peculiarity which is noticed as a cadaveric effect. The lens was perfectly normal, and its capsule intact. The left eye was more congested than the right (the knot was on the right side), and there was, on its outer side, rupture of a blood-vessel, with effusion of a small clot, situated between the sclerotic and choroid coats, and close to the attachment of the margin of the iris.

No. 4 Beaver Hall Terrace, Nov. 26th, 1866.

REVIEWS AND NOTICES OF BOOKS.

Manual of Materia Medica and Therapeutics, being an abridgment of the late Dr. Pereira's Elements of Materia Medica and Therapeutics, arranged in conformity with the British Pharmacopœia, and adapted to the use of Medical Practitioners, Chemists and Druggists, Medical and Pharmaceutical Students, &c. By FREDERICK JOHN FARRE, M.D., Cantab., F.L.S, &c., assisted by ROBERT BENTLEY, M.R.C.S., F.L.S., &c., and by ROBERT WARMINGTON, F.R.S., F.C.S., &c. Edited, with numerous references to the U. S. Pharmacopœia, and many other add tions, by HORATIO C. WOOD, Jr., M.D., Prof. of Botany, University of Pennsylvania, &c., with two hundred and thirty-six wood engravings. 8vo. pp. 1030. Philadelphia: Henry C. Lee; Montreal: Dawson Bros. 1866.

The Elements of Materia Medica by the late Dr. Pereira has been the standard of authority on this subject ever since its first appearance. In the later editions of the work each subject under consideration is treated most copiously. The constant labour of the late author, his continued additions to his store of knowledge, by pushing inquiry and verifying the information received, has given to his Elements the peculiar value which it possesses as a work for reference. With a view of giving to the profession a work with the stamp of Pereira, but of more convenient size, possessing all that is essential to know, and adhering to the original plan of arrangement, Dr. Farr, assisted by Professor Bentley and Mr. Warmington, have prepared the present abridgment, arranged in conformity with the British Pharmacopœia. This edition has been specially adapted for medical practitioners, chemists, druggists, medical and pharmaceutical students, inasmuch as the copiousness of Pereira's great work becomes embarrassing to those who have but limited time at their disposal. The editors have omitted all remedial agents, except those termed by the author "pharmaceutical;" all mental, physical, imponderable, and hygienic remedies, such as the influence of mind, light, heat, electricity, food exercise, and climate. Secondly are omitted all remedies which are not official, or which are not contained in the British Pharmacopœia; and, thirdly, all classifications of medicines have been omitted, except those founded on the chemical relations of inorganic bodies and on the botanical and zoological classification of plants and animals yielding organic bodies. Other changes are to be found in the work of a more directly practical bearing, such as where opinions expressed by the

anthor do not accord with the more advanced knowledge of the day, and which would have been modified or altered by the author had he lived. These are changes which will be readily admitted as of necessity to suit our time, but which may in their turn yield to further experience. The American editor has added several notices of substances which are to be found in the United States Pharmacopœia, and which are not in the English editions nor adopted by the British college. In the American edition is to be found two tables of weights and measures—the one of the British Pharmacopœia, the other adopted by the United States: these are of great practical value. Altogether the work is a most valuable addition to the literature of this subject, and will be of great use to the practitioner of medicine and medical student. The work, as issued by the American publisher, is a handsome volume of 1030 pages, most amply illustrated, the wood-cuts being of superior finish, and clearly impressed. These illustrations are taken from the original work, so that it looks like an old friend in a new dress. The paper is superior, and the type of large size and clear. It is to be had of Dawson & Brothers, Great St. James Steeet.

Practical Therapeutics, condensed chiefly with reference to Articles of the Materia Medica. By Edward John Waring, F.R.C.S., F.L.S., Surgeon in Her Majesty's Indian Army. From the Second London Edition. 8vo., pp. 815. Philadelphia: Lindsay & Blakiston. 1866.

This work is a monument of industry and perseverance, from the pen of an officer in Her Majesty's Army, who employed leisure hours in arranging his notes and observations, many of which had been made years before. The present edition was delayed for some time after the publication of the British Pharmacopœia. In consequence of the changes in that work being so numerous and important, the author found it necessary to make alterations to bring the text up to the standard established by authority. In the arrangement the articles are placed alphabetically. Under each heading will be found a short, concise description of the substance under consideration, its botanical arrangement, medical properties and action, officinal preparations, with method of preparing them, and dose; and then we have a full, useful, yet concise description of the therapeutic uses of the drug, together with ample references, giving the names of the authorities who have recommended and used it in any particular disease. A noticeable feature in this work is an index of diseases, whereby the practitioner or student can ascertain

the use of any one drug in any special disease, and also the name of the person on whose authority it has been employed. This is most important, as affording ample opportunity for reference, which is not to be found elsewhere. As a work for reference, it is invaluable, both to the practitioner and student. The book forms a handsome volume, printed on good paper, and the type is clear and well impressed.

Orthopedics: A Systematic Treatise upon the Prevention and Correction of Deformities. By DAVID PRINCE, M.D., 8vo. pp. 240., Philadelphia: Lindsay and Blakiston, 1866.

The volume of Dr. Prince presents a very creditable appearance in paper, type, and illustration; and in this respect it is very acceptable.

The attempt at arranging the orthopedic material in systematic order has proved a failure with the author, as it did with Andry. There is no organic cohesion between the subjects of this specialty, except in the treatment, which of course is not available as a systematic distinction. Moreover, a system has its inconvenience. In order to perfect the literary structure, we are often forced to draw in heterogeneous subjects which prove unwieldy. The same experience, the author has obviously made, very much to the detriment of his literary achievement.

All he imparts about cleft-palate is well known, and best understood by dentists, to whom it properly belongs. But the most important surgical portion of the subject he passes over with a few words. We leave the priority undecided between J. Mason Warren, of Boston, and B Langenbeck, of Berlin; but the author should not have omitted the numerous and successful operations for cleft-palate performed by the latter and his pupils, during the last five years, nor the ingenious technicalities adopted by Professor Langenbeck, to facilitate the procedure. It is not our business to correct the defects of the author; but we must refer the enquiring reader to the Archives of Clinical Surgery of Berlin, which contain most valuable papers and illustrations on the subject.

Again the author introduces ectrophy of the bladder, and drops it into "a receptacle for the urine" of Bigg, without pointing out the plastic method of Dr. Daniel Ayres * of Brooklyn, who successfully created an organic anterior wall for the defective urinary reservoir.

In web-fingers, the author suggests the sacrifice of the bones of one finger for the purpose of obtaining integuments to cover the adjoining ones,—an advice which we should feel inclined to reject as reprehensible. The web-membranes are mostly large and sufficiently expansive

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* New York *Medical Gazette*, 1857.

to supply the needful covering. Dieffenbach has, moreover, demonstrated the plan by which the encroachment of the fork of the fingers may be effectually averted, but the author has failed to notice it.

The subject of strabismus is obviously foreign to the author, and his estimate of the operation falls notably below the mark of reality. No surgical procedure has been raised to an equal degre of accuracy and perfection. The failures of clumsy operators cannot be admitted as standard results. However, we think with the author that proper optic gymnastics should oftener be resorted to, more especially in cases of strabismus that have grown out of bad habits.

The article on perverted, excessive, or diminished nervous action is diligently compiled, and comprises the views of some of the most prominent neuro-pathologists whose language has been accessible to the author. New points of practical interest are not set forth. The subject is left precisely in *statu quo ante*. The theory ascribed to Barwell, and adopted by the author, that the waste of contracted muscles is due to compression of the capillaries, is obviously fallacious; for not only the muscles concerned in the contraction are wanted, but the various parts of the affected region or extremity participate proportionally. In wryneck, for instance, the affected side of the face is greatly attenuated, whilst the sterno cleido-mastoid alone may be in a state of contraction. If the trouble concerns but a single group of muscles of an extremity, we find the connective tissue and its adipose complement much diminished: even the growth and development of the bones is prejudiced, as a comparison discloses. In all contractions the action of the vaso-motor nerves is undoubtedly compromised whether their origin be central or reflective; a mere mechanical explanation is inadmissible.

The author quotes at some length Brown-Sequard and Matteucci without arriving at conclusions warranted by the logic of their experiments. In cramps excited by central irritation, tenotomy, or approximation of their attachments relaxes the affected muscles; whereas elongation causes pain and moreover renders them proportionately susceptible to galvanic excitation. The author infers (page 35) that "the division and *extreme sudden extension* of the tendons and muscles obviates the pain," and therefore tries to establish "the extension" as a therapeutical axiom in the treatment of deformities arising from such sources We readily admit that extension has its therapeutical value, but it can never aspire to be substituted for tenotomy and myotomy. In moderate spastic contraction of short duration it may suffice, and in such cases every rational and well-informed practitioner resorts to extension in preference to division of the muscles; but in aggravated cases extension i

not only ineffective and painful, but even dangerous by increasing the existing, or by reproducing the original morbid condition that gave rise to the contraction. We remember the case of a middle-aged gentleman who suffered from paraplegia, in the course of which the extensor muscles of both feet became to such a degree contracted that the feet appeared to be in the same axis with the legs. The disease had existed for some eighteen months, when gradual improvement became noticeable in colour, temperature, sensation, and motion. At the end of the third year the operation for the deformity was deemed practicable, from which it was hoped that the patient might be enabled with the aid of crutches to move about. But he refused the administration of chloroform. After the Achilles tendon had been divided, a rather powerful effort was made to flex the foot. The attempt not only failed, but gave rise to *terrific pain*. The division of the tibialis posticus and peroneus longus muscles had to be deferred by request of the patient. During the ensuing night electric discharges commenced from the spinal chord downward, which continued in increasing severity some weeks, when inflammation of the chord supervened terminating fatally in a few days. The use of anæsthetics might probably have averted the eventual reproduction of the original lesion; but nevertheless the case proves all we intend to show, namely first, that even a powerful extension does not overcome spastic contraction of long standing and great intensity; and secondly, that such an attempt is fraught with imminent danger. Similar experience has been made in reflected contractions attending joint diseases. In those cases we have seen articular affections reproduced that had terminated years previously, by merely placing contracted muscles in forcible extension, notwithstanding the use of chloroform. The ensuing inflammations were characterized by extraordinary violence and rapid development. In the face of such facts, it would seem that the suggestions of the author must be taken *cum grano salis*, and be set down as unsafe practice.

(To be Continued.)

A Practical Treatise on Fractures and Dislocations. By Frank Hastings Hamilton, A.M., M.D., Professor of the Principles of Surgery, Military Surgery and Hygiene, Bellevue Hospital Medical College, Surgeon to Bellevue Hospital, and to the Charity Hospital, New York, &c., &c., &c. Third edition, revised and improved. Illustrated with two hundred and ninety-four woodcuts; Philadelphia: Henry C. Lea, 1866.

This work has been received as a standard authority on the subject of Fractures and Dislocations. Perhaps no treatise gives greater evidence of

earnest and conscientious research, and the profession owe to the author a debt of gratitude for its production. In this, the third edition of the work, the author has added considerable material from published observations recorded since the appearance of the second edition. He has also taken advantage of observations made by himself at the Bellevue and Charity Hospitals, New York. In this labour he acknowledges the able assistance of "that zealous student and thorough scholar, Dr. John Winslow" of New York.

In the chapter on "gun-shot injuries" the author has added many interesting and valuabls statistics obtained from the published records of the United States and Confederate armies. The work is amply illustrated by 294 illustrations, two hundred and thirteen of which are devoted to the subject of fracture. The author has selected some of the illustrations from Gray's treatise on anatomy, descriptive and surgical. These chiefly illustrate the centres of ossification and subsequent development of bone. Furthermore he has borrowed from the same author several illustrations of fractures; these are duly accredited in the text. We regard this as one of the most valuable and interesting works which have issued from the American press. It forms a handsome volume of seven hundred and seventy-seven pages, printed on excellent paper and of superior finish. It is to be had of Dawson Bros., Great St. James Street.

PERISCOPIC DEPARTMENT.

Surgery.

CASE OF PARACENTESIS PERICARDII—RECOVERY—CLINICAL REMARKS.

(Under the care of Dr. Clifford Allbutt)

This rare operation was lately performed at the Leeds Infirmary in a case of acute rheumatic pericarditis, and with perfect success.

Dr. Allbutt, in his remarks upon this case, compared the operation as performed with a canula by Mr. Wheelhouse to that with a bistoury as recommended by Trousseau and others. He expressed a very decided opinion in favour of the canula. He also pointed out that in the present case one tapping was found to be sufficient, and that irritant injections were not required. He added that, had it been found necessary to repeat the operation, he should have advised the injection of an iodised solution.

Dr. Allbutt, in concluding his remarks, pointed out how strong an instance was to be seen in this case of the unity of the Medical Art in all its aspects. He said that no case could show more clearly how necessary it is for a physician to have a useful knowledge of the resources of the surgeon, and for the surgeon to be able at once to perceive the wants of a physician. Nothing, in his opinion, was more to be regretted than the unfortunate division of these two great departments of the healing art, by which a mere arrangement of convenience has been placed on the level of a real distinction, thereby encouraging at the very outset of a student's career a narrowness of thought and an incompleteness of education, which is most mischievous to the best interests of the profession.

For the notes of the following case we are indebted to Mr. George Thompson, clinical clerk :—

C. S., aged 26, gas-pipe layer, was admitted into No. 4 ward, under the care of Dr. Allbutt, on September the 18th, 1866. On admission he was suffering from very acute rheumatism, both muscular and arthritic, and there was considerable dyspnœa and oppression. On examination the pericardium was found to be much distended with fluid, and there was acute pain in the region of the heart. A blister over the heart was ordered, and full alkaline and opiate treatment.

On September 19, about 11. 30 p.m., Dr. Allbutt was hastily summoned to see the patient, who was found sitting up in bed, with his elbows on his knees, struggling for breath. He was covered with a cold copious sweat. The area of pericardial dulness was found to be considerably increased, occupying nearly the whole of the left chest in front. There was perfect resonance all over the left lung behind. The patient was clearly at the point of death, and Dr. Allbutt determined at once to ask Mr. Wheelhouse to tap the pericardium. Mr. Wheelhouse was, therefore, called in to see the patient.

The extent of the pericardial dulness was now accurately defined, and the probable position of the apex of the left ventricle and of the auricle was as far as possible ascertained. Mr. Wheelhouse determined to open the sac half an inch from the sternum on the left side and opposite the upper margin of the costal cartilage of the fifth rib. He passed in a fine trocar, inclining it slightly upwards and inwards, so as to enter, if possible, opposite the centre of the left ventricle. He pushed it onwards until he could distinctly feel the movements of the heart with the instrument ; and then, sheathing the point, he pushed the canula well up to the heart until he could both feel and see the impulse. The trocar was then wholly withdrawn, and the fluid allowed to escape. This it did in a steady stream at first, which soon subsided into a saltatory flow coincident with

the heart's contractions. The fluid consisted of a pale-pink coagulable serum. On the whole, about two and a half or three ounces escaped During the operation the patient gradually obtained relief, and after the canula was withdrawn, the bed rest was removed, and he was able to lie down. The breathing was now only 36 per minute, and he was able to speak a few words, and express that he felt relieved. The pulse had lost its rapid and struggling character, and could easily be counted, its number being about 110. The area of dulness was very decidedly lessened, but it was not thought well to tease the patient again with a minute examination. Mr. Coleman was good enough to sit up all night with the patient, who passed it in tolerable comfort, though there were several threatnings of syncope, which were warded off by large and repeated doses of brandy ; all other medicines were omitted.

Next day the cardiac dulness had not increased. On the evening of this day (September the 26th) the breathing again came more laboured, and considerable delirium came on. Another large blister was placed over the region of the heart, and half a drachm of liquor morphiæ was given : ten drops were ordered to be repeated every six hours. A comfortable night was thus passed.

On the whole, the patient may be said to have steadily improved from this time, and on October the 13th he was discharged cured. The pericardial dulness on his discharge was little, if any, beyond the normal extent. There was a loud blowing systolic murmur heard over the apex. —*Medical Times & Gazette.*

ON REMOVAL OF THE ENTIRE TONGUE.

By Thomas Nunneley, Esq., Leeds.

The operation for the removal of the entire tongue may, without hesitation, be declared one of modern surgery ; so modern, indeed, that I believe it belongs to the latter half of the nineteenth century. Though portions, larger or smaller, of the tongue have, from time immemorial, been in various ways removed, the idea of its being feasible to remove the whole of the organ does not appear to have been entertained, or, if ever entertained, ever to have been put in practice. So strong in all ages has been the popular idea for the necessary presence of at least some portion of the tongue, that, when the historian of the introduction of Christianity into the Roman Empire recorded, amongst other gross barbarities to which the converts were subjected, that one of the martyrs who had the tongue torn out not only survived, but afterwards spoke, he thought it necessary to call in the aid of direct miraculous intervention as the only explanation of so astounding a fact. Referring to this statement, Gib-

bon, who, as is well known, had no belief in miracles, sneers at the credulity of those who can believe in the possibility of such a mutilation being recovered from, and regards the whole statement as a romance. So also accounts have from time to time reached the western world, of the barbarous chiefs of some of the tribes in Central Asia, as an extreme measure of political vengeance rather than of criminal punishment (for which it appears to have been considered too horrible), ordering the tongue to be torn out, and the occasional surviving of the victim. Though the evidence in support of the truth of the stories, obtained by one of our ambassadors at the Persian Court. and by other persons in the East, would have been considered in many matters of inquiry sufficient to justify the belief in the statement, still so opposed was the general opinion to the possibility of any one living and speaking after such mutilation, that most commonly it was thought the well known tendency to exaggeration and mystification in these regions had imposed upon the credulity of those who related the tales. This opinion was rather confirmed than not by the fatal result which followed in the first two cases in which the operation was performed by a British surgeon, and by the very discouraging conclusions which he arrived at on a consideration of the operations. Mr. Syme says: "I think there should be no hesitation in deciding against the repetition of this procedure. In promoting the progress of surgery, it is hardly of more consequence to determine what is expedient than to ascertain what is not expedient; and I venture to hope that the experience now related may not prove useless, by saving others from the disappointment which I have myself experienced." (*Lancet*, Aug. 14th, 1858, p. 169.)

The reasons which mainly have weighed with surgeons in deterring them from attempting to remove the entire tongue, are—

1. The difficulty of reaching the base of the tongue so as to cut through it.

2. The difficulty in arresting hæmorrhage in a part so deeply seated, so elastic in texture, and supplied with large arteries in immediate continuity with the carotids.

3. The immediate danger to life from other important organs becoming involved.

4. Even though the immediate danger be escaped, the improbability of life being maintained for any lengthened period, owing to the difficulty in deglutition and the loss of the sense of taste.

5. The miserable condition to which it was supposed the sufferer must be reduced by condemnation to perpetual dumbness, from the loss of what has been universally regarded as the necessary instrument of speech.

Yet, in practice, it has been found that none of these reasons possess nearly the same importance which has been assigned to them. The entire tongue may be removed without any very great difficulty. The hæmorrhage is not necessarily severe; in some cases there has literally been none; and in no case has its arrest been difficult. The immediate danger to life has not proved great. Instead of deglutition being rendered impossible by the ablation of the whole tongue, on the contrary, after the first soreness caused by the operation has passed off, the patient is found, as compared with his previous condition, to be able to swallow both solids and liquids with facility. Indeed, no one who has not watched a person wholly without tongue, would be prepared to see him drink off half a pint of beer without stopping, as I have repeatedly seen more than one person do. The sense of taste is not lost, but remains in a considerable degree; and, so far from emaciation following the operation, in every case which I have seen, the patient has rapidly improved in flesh and strength, which may partly, no doubt, be attributed to loss of the pain and want of sleep he has suffered, but to which the improved facility of deglutition mainly contributed. So far from dumbness ensuing, the loss of the diseased organ is speedily followed by greatly improved articulation; and the power of speaking and reading aloud with sufficient distinctness to be easily understood is surprising. Indeed, one of my patients, who was fond of exhibiting his power, when in company often took part in the conversation, and contrived to lead it towards the subject in which he was so interested, frequently had to exhibit his empty mouth before his incredulous companions would believe him to be without a tongue.

I have now operated five times. In four of the cases the entire tongue was removed; in the other, more than two-thirds of it. In two of the patients, no constituted disturbance whatever followed; one did not even require an opiate; and in two others, the disturbance was very slight and temporary. In the first case only were there any dangerous symptoms; and even this man, on the separation of the tongue, immediately recovered. Much of the trouble and suffering in this case arose from its being a first operation, and the unfortunate *contretemps* of the chain of the *écraseur* breaking, and thus necessitating a different and far more tedious proceeding than that originally intended. Hence I think I am justified in saying that, as compared with other important operations, the removal of the entire tongue is not a very dangerous one. It would be difficult to point out one new capital operation, in which, in the hands of one surgeon, all the cases—five in number—have recovered.

I allude now only to my own cases, because, while I would desire to

speak with the greatest respect of the operations of Mr. Syme, whose boldness in conceiving, and whose practical skill in executing, any surgical procedure, all must confess and admire, I cannot dismiss from my mind the feeling that the fatal termination in his first two cases resulted rather from mischief inflicted in reaching the tongue than from the removal of the tongue itself. As in a third and more recent case success rewarded the operator, his former decided opinion as to the unjustifiableness of removal of the tongue, above quoted, has been modified.

The operation which I now perform is not a very difficult one. I need not detain the members with the various modifications which the plan of operation has undergone; but merely state that adopted in the two last cases, which appears to be as simple as possible.

The two great indications to be kept in mind are, the removal of the organ just anterior to the epiglottis, with as little disturbance of any other part as possible, and the avoidance of hæmorrhage, which, if free, would be found very difficult, if not impossible, to arrest. This latter indication is to be attained by using the *écraseur* for dividing the tongue, instead of a sharp cutting instrument; this being one of the very few exceptions in which, in my opinion, the *écraseur* ought to be allowed to usurp the place of the knife.

No knife is required, and only one small external wound is made.

I take a sharp-pointed curved blade, about four inches long, and of just sufficient thickness and breadth to carry the wire-rope of the *écraseur*. This rope I have made somewhat thicker than those ordinarily supplied by Messrs. Weiss, with Hick's instrument, and I always have a second in reserve in case the first one should give way. The middle of the rope should be attached by a piece of string to an eye made in its broad end. The patient reclining on his back in a semi-recumbent position, this blade is plunged exactly in the median line, between the base of the jaw and the os hyoides, but somewhat nearer to the latter than to the former, into the mouth, and brought up at the frænum linguæ, and so out of the mouth, the wire-rope following. A good sized loop of the rope must be drawn through, and the needle cut off. The rope must now be carried well back and spread over the base of the tongue, the tip of which being then drawn through the loop, is seized with Luer's tongue-forceps, and pulled forcibly outwards and somewhat upwards. Two or three long and stronge hare-lip pins, somewhat curved towards their points, should next be carefully thrust from the underside of the anterior attachment of the tongue through its substance, and brought out on its upper surface as near to the base as possible. One of these pins should pass on each side; and if a third be used, it should traverse the median line. Their

points should just appear on the upper surface, and over them the rope should be carried. They will thus serve to prevent its slipping forward when it begins to be tightened, as it might otherwise do. They are not absolutely necessary, but I think are useful, and give rise to very little pain; besides which they serve to indicate the exact portion which has to be removed. Of course, the larger this is, the more carefully must the pins be carried well back. The screw of the instrument should now be turned so as to gently fix the wire, that it may not move from the line in which it is intended to cut.

Hitherto very little pain has been inflicted, and the voluntary efforts of the patient have been useful in facilitating the proceedings; but at this stage he should be put fully under the influence of an anæsthetic so that he may not feel, and the screw of the *écraseur* be steadily but very deliberately turned, the tongue being forcibly extended. It speedily becomes strangulated, and is cut off. The operator must be prepared to find in most cases considerable resistance, and to employ more force in turning the screw than possibly, *à priori*, he might anticipate would be required; though, as the force necessary varies considerably in different tongues, he must be on his guard, or the wire may cut through too rapidly, and serious bleeding from the lingual arteries may ensue. To meet this contingency, I have always had in readiness different forms of cauterising-irons, as well as the solid perchloride of iron (in a liquid state it is of very little use in free deep hæmorrhage), though in only one case has there been any bleeding whatever from the divided base. In that case—the last one in which I have operated—the tongue yielded with much less force than it had done in any other, and was cut through more rapidly than I had intended it should have been. For a moment there was free bleeding from one lingual artery, but none from the other. Though the mouth of the vessel could not be seen, the part was seized with forceps and a ligature placed upon it, when the bleeding at once stopped and did not return.

The small submental wound has in every case healed by the first intention. The mouth and pharynx for the first thirty-six hours are painful, and deglutition is difficult; but these symptoms very soon mitigate, and the patient is able to swallow liquids, though I think it in all cases advisable to administer nutritious enemata and opiates, and thus keep the throat quiet. A little ice placed in the mouth is usually very grateful. In a fortnight or three weeks the wound heals. The two last cases I had, a man and a woman, both returned home in three weeks quite well. It is surprising how speedily the patient improves in condition. The cessation of the horrible pain and restlessness caused by the disease

seems to enable the patient at once to rally, and to counterbalance any shock which the operation might otherwise inflict.

In the first case I operated upon, there was certainly diffuse inflammation of the lungs, which rendered the patient very ill for the first few days. This was, as I have already said, rather to be attributed to the mode in which the operation was performed than to any inevitable sequence on removal of the tongue.

It must not be understood I am for a moment asserting, that the operation will be a permanent cure in all cases of cancer of the tongue, any more than the removal of a cancerous tumour in other situations of the body will secure immunity from relapse; but of this I am confident that, by affording the means of removing a larger portion than has formerly been thought to be practicable, and inducing an earlier performance of the operation, so as to secure the entire removal of all parts involved in the disease, it will, in accordance with all practical teaching, give the patient a far better chance of recovery, and, should the disease have been local, and not dependent upon a constitutional diathesis, this may be permanent.

Even in cases which are far advanced, when the pain and distress are great, as they commonly are, I would not hesitate, if I could get fairly beyond the part of the tongue actually involved, after what I have seen, to operate, as a means of prolonging life and lessening suffering, even though I felt confident that the disease could not be effectually eradicated. Thus, I have operated in a man, and also in a woman, in whom the submental glands were implicated. The tongue occasioned so much distress, there was no sleep at night, articulation was so indistinct, and talking so painful, that they could not be understood, and deglutition was so difficult that both were literally starving. On the removal of the tongue, each patient at once rallied, gained flesh and strength, could swallow with comparative ease, and articulate so as to be readily understood. Though in both the disease in the glands progressed, as was anticipated, it did not reappear in the stump of the tongue, and thus the downward path was not only rendered much slower, but it was relieved of much of its horror.

One man upon whom I operated continued quite free from any return of the disease for three years, when he died from hereditary phthisis, accelerated by continual intoxication. Two died, as I have just mentioned, from development of the disease externally to the mouth and in the abdominal viscera. The other two are alive and well, and pursuing their ordinary avocations: the woman attending to her house-work, the man following his trade as a carpenter. The latter says that he is as well as he ever was.—*British Medical Journal.*

ON THE TREATMENT OF ANEURISM BY ACUPRESSURE.

By Henery Lee, Esq., F.R.C.S., Surgeon to St. George's Hospital.

It is an opinion very generally entertained that the primary object in the treatment of aneurism should be to retard the circulation of the blood through the tumour, so as thereby to increase the quantity of coagulum in the sac.* Two propositions are here taken for granted: (1) that the coagulation depends upon the slowness of the motion of the blood; (2) that the cure is in some way associated with the amount of the coagulum. Upon each of these subjects I would offer a few very brief observations.

1. Is it true that slowness of motion is the essential condition which favours or induces coagulation of the blood in the living vessels? Hunter tied the carotid artery of an animal in two places; the intervening portion of the vessel must have been full of blood, yet when the animal was killed some days afterwards, a coagulum was found adjacent to one of the ligatures only. The preparation is preserved in the museum of the College of Surgeons. I have placed a ligature upon the jugular vein of an ass, and had the animal killed at the expiration of forty-eight hours. On examining the parts, I found only a very small, loose, floating coagulum in the vein above the ligature: there was no appearance of any clot having adhered to the lining membrane of the vein, nor was there any deposit of fibrin upon it. On the other hand, when blood is withdrawn from the body and beaten with a twig, the rapidity with which the twig is moved does not prevent the separation of the fibrin; or, again, if some mercury be shaken with some recently drawn blood, however briskly, the fibrin will adhere to the moving particles of mercury. These instances will, I think, be sufficient to show that retardation in itself is not sufficient to account for the coagulation of the blood, or for the separation of its fibrin in the living body.

2. Is the cure of an aneurism favoured by a large amount of coagulum?

Hunter thus correctly describes the appearances of a coagulum in an aneurismal sac:—"The firmness and colour of the laminæ in different parts of the tumour are such that it is easy to distinguish an old coagulum from a new one: external laminæ are of a dusky-brown colour, and these laminæ grow gradually redder as we advance inward toward the current of the blood."† He also says that an aneurism arrived at this state generally yields to the force of the circulation. The fact of the inner

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* See Holmes' Surgery, vol. iii., p. 362.

† Works by Palmer, vol. i., p. 546.

laminæ of the coagulum being, as he describes them, of a reddish colour, shows that they approach in their composition to ordinary blood-clots, which are very little fitted to perform the duties of permanent repair. Any amount of this material, which can neither become organised nor absorbed, may serve to prevent farther distension of the arc, but cannot assist in the vital union of diseased or injured parts.

In order to understand the real intention of the deposit of fibrin in injured or diseased arteries, we must look to what occurs when the injury is first inflicted, or the disease first commences. At that time we never have a large amount of fibrin deposited. What we see in examining the bodies of those who die of aneurism is the product of long-continued growth. The successive laminæ mark the different periods at which fresh portions of fibrin have been deposited; but as they have been so deposited the layers first formed have become distended before the impulse of the blood. This impulse, the last formed layers, according to the description above given, are still less likely to resist than the first; and so the disease has a natural tendency to increase.

Now, it is a remarkable fact that, in animals, wounds of arteries do not produce aneurisms. We learn from this that there is a natural power by which a wounded artery may be repaired; and we may learn also what the process is by which that restoration is effected.

It has already been stated that the blood does not coagulate or part with its fibrin readily in the living vessels, but that it does so readily when in presence of any foreign body. A wounded or diseased artery presents such a foreign surface to the blood; and however rapidly the blood flows over that surface, it will leave some fibrin adhering to it. The fibrin so deposited in the case of a wounded artery acts as a temporary bond of union between the divided edges. It mechanically glues them together, and, if not disturbed, serves as the bed in which the process of repair is effected. Increased cell growth takes place in the divided edges of the vessel, and this gradually invades the layer of fibrin which serves as the temporary bond of union, until the living cells from opposite sides unite. This is union by first intention. The layer of fibrin in this process becomes absorbed, probably furnishing a pabulum to the cells which grow into it. In a few rare cases the fibrin itself would appear to become organized; but this is an exception to the general rule.

The union of a divided artery and of a divided vein is thus conducted on the same principles, and it is evident that a small quantity of fibrin only is required for the due performance of the process. As soon as sufficient is deposited to unite the divided edges (and this is sure to take place while the blood retains its natural properties), any additional deposit only embarrasses the operation.

In healthy states of the body, wounds of arteries and veins are alike healed in this manner. But it may happen in both that the process is interfered with. In the case of an artery, the temporary bond of union may as soon as it is formed yield before the impulse of the blood. The intention is then not carried out. A fresh attempt is made: a fresh layer of fibrin is deposited, and this in its turn may yield in a similar way; and thus an aneurism is formed, the union by first intention being frustrated by mechanical means. After an aneurism has attained any size, the quantity of fibrin not only prevents the divided coats of an artery from coming together, but actually tends to pull them apart. The opening into the artery is generally much smaller than the diameter of the tumour, and as the outer layers of fibrin are forced outward, they tend to widen the aperture into the vessel. Now, the blood flows almost as quickly through the veins as through the arteries, and yet we do not find aneurisms in veins. In order that the divided coats of an artery may unite in the same way as those of a vein, it is only necessary that they should be placed under the same circumstances. The essential condition is that the layer of fibrin which unites the divided edges should be left at rest until it has acquired sufficient consistency to resist any mechanical causes of disturbance to which the part may be subjected. In this mode of union it is only necessary that the fibrin deposited should be of proper quality, and should not be disturbed. Any larger deposit of fibrin, whether in arteries or veins, is an indication of imperfect action. It shows that the original intention having to a greater or less extent failed, successive subsequent attempts have been made to accomplish the same object. When the healthy natural process of union by first intention takes place, the calibre of the vessel is not obstructed; but in some cases, where the quality of the blood is altered, or where it has become mixed with some other matter, a coagulum of a greater or less extent will form within an artery, and occasionally this will entirely obliterate its canal. Sir Wm. Fergusson showed me some years ago an instance in which he had pressed the coagulum out of an aneurismal sac, and in which the distal arteries in consequence ceased to pulsate. If in such a case the blood were to coagulate around the fibrin so as to obstruct the canal of the vessel for any length of time, a permanent cure of an aneurism situated upon the obstructed vessel might be expected; but, as I have said, with healthy blood it is very rarely that such coagula form within the cavities of arteries which are not diseased.

The statements that I have now made carry conviction to my own mind that neither slowness of motion of the blood, nor any large quantity of coagulum, is necessary for the due performance of the process of union.

It takes places commonly and readily in veins even after a wound has been opened several times, without any obstruction to the circulation; and all that is requisite in order that it may in like manner take place in arteries is that the circumstances may be similar. Thus it is not retardation of the circulation, nor the quantity of fibrin deposited, that is essential for the cure of an aneurism; but some mode of preventing the impulse of the blood upon the newly-formed adhesions: in other words, apposition and rest. These objects may be attained in various ways. Whether intentionally or not, all the operations for aneurism which ha e been introduced, since the severer operation of amputation, as recommended by Pott, and that of opening the sac as advised by the older surgeons have been abandoned, tend to favour these conditions. What has been termed the Hunterian operation does so in a marked degree: the coagulum is left undisturbed, and the impulse is taken off the injured vessel. Instrumental compression, which has lately been used with a considerable amount of success, has evidently the same effect. This practice, as old as the time of Hunter, failed at first from the fact that those who attempted it tried to stop the current of the circulation, and thus produced a degree of pain which it was impossible for the patient to bear. With digital pressure the effect is essentially the same, but the degree of compression must necessarily be constantly varying.

The treatment by flexion is a discovery due to Mr. Ernest Hart. The sac, and consequently its contents, are prevented from being distended by being pressed upon in all directions by surrounding structures. The impulse of the blood, by the compression of the tumour against the upper part of the artery, is at the same time diminished.

Thus in all these methods of treatment the same essential conditions are provided for—viz., rest, and apposition more or less direct of the diseased or divided coats of the artery. It is true that cures have been effected in other ways. Thus the coagulum has been rendered so firm by galvanic action, or by the injection of the perchloride of iron, that it has not yielded before the pulse of the heart; and this is to do by artificial means that which is naturally done in animals. And instances where this mode of treatment has been successful does not in the least militate against the necessity of the two conditions upon which I have insisted.

Now, in the various plans of treatment which I have mentioned, we may observe a gradual progress towards the accomplishment of the same end by more simple means. The old operation involving the opening of the sac was succeeded by modifications of the Hunterian operation. This, in many cases, was superseded by various modes of compression; and this again by the less painful and less tedious plan of acute flexion.

I have now the pleasure of subbmitting to the consideration of the profession what, I believe, may prove a still more simple and more certain plan of treatment, at least in some cases—viz., the treatment by acupressure. I cannot but remember that six years ago I had the pleasure of reading before the Medical Society of London a paper, which was subsequently published as a separate essay. In this I advocated acupressure in certain operations upon the veins—a mode of proceeding which I had at that time practised for a period of seven years. In performing the operation for varicocele it had occurred to me occasionally to wound one of the branches of the spermatic artery, which was not controlled by the needles already introduced. Arterial hæmorrhage would then take place; but this was always commanded by introducing another needle, so as to compress the bleeding vessel. During this period a case occurred which left a strong impression on my mind that the action of arteries in other situations might be more simply and more effectually controlled by acupressure than by other means.

A young man had a wound in the palm of his hand, from which there was a copious hæmorrhage. Various attempts were made to secure the divided ends of the vessel. These all failed. The radial artery was tied, and the ulna artery was tied, and I believe ultimately that the brachial artery was tied; but however this may have been, the arm was at length amputated. It occurred to me that the hæmorrhage might have been restrained by means of needles passed through or underneath the bleeding vessels; and this I mentioned to a friend at the time before the amputation was performed. That such a mode of treatment might be effectual in similar cases has since been fully shown by Sir James Simpson's admirable work on " Acupressure as a Means of arresting Surgical Hæmorrhage."

I will now give a case in which I had an opportunity of putting this plan of treatment into practice in a case of traumatic aneurism.

Henry G——, aged nineteen, admitted into St. George's Hospital on the 16th of September, 1866. On the 9th of September he received a wound on the lower part of the left popliteal space from a sharp knife. The wound at the inner side of the leg passed obliquely outwards to the extent of an inch or more. There was a great deal of hæmorrhage at the time, but this was stopped by a handkerchief being tied round the limb. The handkerchief was allowed to remain untill the 12th, when it was removed, but again applied. There was not any hæmorrhage at this time. Having removed the handkerchief on the 16th, the bleeding recurred. He was now admitted into the hospital. There was a tumour on the lower and rather to the inner side of the popliteal space about the

size of a large chesnut. This could be felt and seen to distend with each arterial impulse. When the tumour was forcibly compressed by the thumb, the posterior tibial artery still pulsated. A consultation of the hospital was held upon the case, after which a long slender needle, previously made for the purpose of acupressure, was introduced immediately to the outside and above the tumour, which was at the same time pressed inward by the point of the finger. The needle was made to penetrate deeply into the popliteal space; its point was then turned inward, and brought out immediately behind the internal tuberosity of the tibia. From the grating sensation conveyed to the fingers at this time, the needle must have passed through some fibrous or tendinous structures. A small quantity of blood escaped at each aperture which the needle had made; this was not of a dark colour, and there was no evidence of any large vessel having been pierced. The pulsation in the tumour stopped immediately that the needle was introduced, but the pulsation in the posterior tibial artery in the lower part of the leg could still be distinctly felt. It appeared from this, and from the experiment previously made of compressing the artery, that the aneurism had arisen from a branch of the popliteal artery, and not from the popliteal itself, and that the acupressure needle must have passed between the main artery and the wounded branch. Although the tumour had ceased to beat, a piece of cork was placed immediately above it and a little to its outer side, and confined in its position by an elastic band passed over the extremities of the needle.

September 20th—There had been a little pain up the thigh, but none near the aneurism: no pulsation in the tumour.

22nd.—The india-rubber band was removed, but the needle was allowed to remain. There was some very slight irritation at the points where the needle passed through the skin. There was no other pain or inconvenience. The skin of the leg for a considerable distance was still discoloured, presenting the appearance of having been bruised.

24th.—The acupressure needle was removed (on the sixth day). Some serous fluid followed its extraction, and a very small quantity of blood. A pad of lint was now placed over the situation that the needle had occupied, and retained in its position by a bandage.

26th.—The pad and bandage were removed. Some dark, grumous-looking fluid escaped from the original wound. No pulsation in the tumour, nor fresh hæmorrhage.

27th.—The bandage was again removed, and a smaller quantity of the same kind of fluid escaped from the wound as on the preceding day.

29th.—The wound discharged only a very small quantity of serous fluid.

Oct. 2nd.—There was now no discharge from the wound. Some thickening could be felt in the situation of the aneurism, but there was not the slightest pulsation. The pulsation in the posterior tibial artery continued natural. The skin of the leg still remained discoloured.

4th.—Feels quite well, and is in no pain. The wound has nearly healed.

6th.—Was allowed to get up.

13th.—Has had no unfavourable symptom since the last report. The discoloration of the limb has disappeared. He left the hospital apparently quite well.

The patient presented himself at the hospital on the 20th, and again on the 27th, when, with the exception of the scars of the original wound and of the acupressure needle, the limb was perfectly in its natural condition.

This occurred in a young man; it was a traumatic aneurism, and it was in a branch only of the main artery. It does not therefore follow that an ordinary aneurism of the popliteal artery would be cured by the same plan of treatment. On the other hand, it must be considered that this must have been a large branch, that it was very near its parent trunk, that it doubtless had its accompanying veins and nerves, and that these sustained no injury from the degree of pressure which was applied to them. Considering that an aneurism of this size and in this situation was so speedily and so completely cured by acupressure—considering that the degree of pressure required is not such as to stop the circulation, and taking into account the fact that an acupressure needle may at any moment be removed, the facts are, I think, sufficient to justify the trial of this mode of treatment in other cases of aneurism. Should increased experience confirm the *à priori* reasoning, there is, I think, little doubt but that it would be a simpler and more effectual way of preventing the arterial impulse than any other hitherto practised.

In conclusion, I may mention that the needles best adapted for compressing large arteries are curved, with rounded, not cutting points These, when used, should be held firmly in a handle which can easily be removed. With a needle of this kind it is not easy to wound a large vessel in the living body.—*Lancet.*

Savile-row, October, 1866.

THE TREATMENT OF CANCER BY INJECTIONS.

By Charles H. Moore, F.R.S., Surgeon to the Middlesex Hospital.

The ingenious method of treating certain cancerous tumours communicated to the Association at its last annual meeting by Dr. Broad

bent, could not fail to awaken very great interest, because of the singular nature of the novelty and of the success attending it. It is strangely novel, inasmuch as it chemically dissolves the cancerous cell in the midst of the tissues: and it is strangely successful, for it has effected the absolute dispersion of small cancerous tumours, without destroying, as caustics do, the natural textures in which the tumours lay. Both these facts I happened to have the opportunity of demonstrating; and I took occasion to bring them before the Pathological Society of London at its first meeting in the present session.

The introduction of this method constitutes a most important epoch in the treatment of cancer; for the acid is as nearly a specific against the disease as anything can well be—a specific, happily, which is, in a great degree, intelligible in its action, a specific without a mystery.

Like all new remedies, its value needs exact estimating. It is capable of doing certain good; its applicability is still uncertain. There are situations in which difficulties of manipulation may prove insuperable, and the remedy cannot be brought into action against the disease. There are conditions of bulk in some cases, which we do not yet know that a remedy so slow in its action can overcome. There are also misconceptions in our own minds as to the extent to which the disease is diffused; for disappointment consequent on which no remedy is answerable. Acetic acid dissolves cancerous tumours, and the absorbents may remove the inert remnants of it; but the acid does not change the disseminating power of the disease. If fragments be left beyond the limits of a tumour, they will grow again, whether the main mass have been cut away with the knife or dissolved with the acid.

Again, there are dangers to the reputation of the acid as a local remedy which are incident to its misuse. If employed too strong, it acts as a caustic, and produces sloughing; only in a certain degree of dilution is the proper action obtained which was contemplated by Dr. Broadbent.

I have been led into these remarks by the present interest of the subject; but my intention in writing was to refer to the questions raised in the letter of Dr. John Barclay of Banff. Who originated, in whole or in part, the method of treating cancer by injection of the acetic acid? No one can deprive Dr. Broadbent of the credit of the treatment as a whole. He devised it; he employed it; he published it. But others are answerable for the parts; for detecting the action of acetic acid on cancer-cells; for the invention of the syringe and cannula for subcutaneous injections; and for adapting them to throw remedies into the substance of a cancerous tumour.

Dr. Barclay claims to have originated the use of acetic acid in cancer, and he assigns to use the credit of having first treated cancer by injection. I do not know whether either claim can be substantiated.

That Dr. Barclay's suggestion was independent and original, I have no question; it needs only to peruse the account of his valuable comparative experiments with the citric, acetic, and carbolic acids, to perceive that he had obtained good results from the use of acetic acid in cancer in the living subject. I was aware of his observations, having carefully read his paper at the time of its publication, and afterwards employed the carbolic acid, according to the form he recommended, on some of my patients at the Middlesex Hospital. Nothing was further from my intention than to ignore Dr. Barclay's work, of which I do not doubt that, as it certainly contributed to our knowledge of the use of acetic acid, it may also have led up to the choice of it by Dr. Broadbent. It was in connection with the method of injecting cancerous tumours, not with the superficial treatment of them when ulcerated; and it was in contrast with my own injunctions of other substances, that I referred to Dr. Broadbent's happy selection of the acetic acid.

This acid had, in fact, been thought of, and actually used, in the treatment of cancer before 1866. My former colleague at the Middlesex Hospital, Mr. Mitchell Henry, when he had not yet condescended from Surgery to Politics, was in the habit of giving it to his cancer patients as an internal remedy, on this very account of its action on the cells under the microscope. Mr. Henry retired from the profession in 1862. And I was once informed by Mr. Charles Hawkins, that Sir Benjamin Brodie used this remedy in the local treatment of an open cancer of the breast. Dr. Barclay has had the satisfaction which always accompanies the exercise of ingenious and original thought, and that of extending our knowledge of the action of acetic acid; but it does not appear that he has the additional pleasure of having been the first to discover its usefulness in cancer.

My own connection with this treatment is not that of an originator. At least, I did not, in my remarks of October 16th, intend to make that claim. I said that, "as the hypodermic injection-syringe was so much in use at present, it would be surprising if it were not employed in the treatment of cancer." And I said, speaking inexactly, that I had for a year or two, or a year and a half, been trying various remedies introduced in this manner in the treatment of that disease.

Whether I really first used injections in the treatment of cancer I do not know. In a London hospital our proceedings are so public, that that which we originate may be adopted by others as usual treatment,

and may be afterwards published without reference to the inventor, and certainly without the intention of depriving him of the credit of his thought. But Dr. Barclay's letter has led me to refer to my notes, and to cull from them the following history of my doings.

In a clinical lecture on surgery, which I delivered on June 30th, 1860, I detailed a case of lupus exedens in a young woman, which had destroyed the tip and one ala of the nose, had split the lip, and extended far into the nostril. After failing to arrest the disease by ordinary treatment and superficial caustics, I injected, at Mr. De Morgan's suggestion, perchloride of iron into the tissues beneath the disease. At that part the lupus was stopped; elsewhere it went on. In the same lecture, I suggested that the plan was applicable to the treatment of cancer. My first application of the method of injection to cancer is thus due to advice from Mr. De Morgan in what was practically a similar disease. And I am disposed to attribute to this hint from him the direction of my thoughts to that treatment of cancer by zinc after incisions, which I adopted first in a vast rodent cancer of the face, and which has been since frequently practised for those gigantic ulcers with surprisingly successful results. My first patient so treated lived in comfort for three years, until the age of 75; and I presented her before the British Medical Association at its meeting in the College of Physicians in London. The same hint, and the result in the cases of lupus and rodent cancer, led me on to apply solid zinc and zinc paste to the wound after removing a cancerous breast; but, in Mr. De Morgan's mind, his thought produced the more practical and widely useful plan of treating all wounds, cancerous or not, with the zinc solution.

I next find in my notes sundry thoughts on the treatment of cancer, from which I extract the following:

"*Treatment of Cancer.*—It seems to me clear that our methods of treatment for cure fail for want of quantity and continuousness of application. Some medicines cannot be administered in more than a small dose; and we already know that within the limits of their tolerance by the system they are useless for the cure of cancer. Of this kind is arsenic, which influences solid new growths, but kills without curing.

"But if we would alter cell-growth in the body, we must have a long continued stream of the medicinal agent flowing through the cancer. It might be introduced through the skin, as by a long residence in a bath of it, or by wearing it inside a caoutchouc dress. It might be made to saturate the liver by profuse and repeated enemata. It might be inhaled. Only, whatever the substance chosen, there should be enough of it, and it should be long continued.

"Whether the cancer be at first local or constitutional, it is usually already diffused through the system when surgeons operate. From its earliest existence, a cancerous tumour contaminates the system and invades adjoining tissues. These are its first victims, and glands next, which have no power to eliminate its surplus or refuse. Are we then upon the right track in merely extirpating the tumour? We know nothing of a constitutional remedy; have we the completest local one? Subcutaneous injection might do with local deposit what other organs could not—neutralise, dissipate, render it innocuous.

"We want not merely to extirpate the tumour, but to remove adjoining blastema. Could acetate or perchloride of iron, or chloride of zinc, or chlorine, or what not, much diluted, be driven into the tissues all round a growth, beneath it, into it? The tumour might be injected with undiluted, the tissues with diluted solutions. And, after a cutting operation and cicatrisation, could the same be done with the whole region?

"Slow daily injection, as diffuse as emphysema, to wear out the propensity to the disease or to destroy the material of it.

"What is wanted to destroy the tendency to recur in tissues and in glands, is a cutaneous and subcutaneous application of the chloride of zinc. The skin should be soaked in it; the subjacent tissues flooded with it, until the cancer growing elements wear out. The whole region leading to the axillary gland should be acted on, and the tendency of cancer of the breast to grow towards the clavicle should be observed.

"Should this seem effective, some less painful way of arriving at the same result might be discovered.

"If it saved from recurrence, it might also be of service to destroy a young growth, when extirpation was objected to. The progress to glands by the natural circulation would be the means of acting on them, if not diseased; but if diseased, they also should be punctured.

"In the beginning of such treatment of the primary tumour, would any advantage come from underbinding the absorbent vessels below the edge of the pectoral with a wire ligature; so only as to interrupt the current, but not to obliterate and cut through them, as in varicocele? The changes in the primary tissues would perhaps be more complete, if the injected liquid or gas did not so readily run off by those vessels."

Though these suggestions were committed to paper from time to time as they occurred to me in 1859-64, I did not put my thoughts into execution until 1865, when I had some syringes and sharp-pointed cannulæ prepared for the purpose. I first injected into an advanced case of epithelial cancer of the face a solution of twenty grains of the chloride

of zinc to the ounce of water. The effect was severe pain, which was over in an hour and a half, and œdema around the diseased parts which were infiltrated with the liquid. I have not kept the date of this operation.

The next case was one of cancer of the breast, sent me by Dr. Rowe of Margate. The disease was in an advanced stage, and unfit for ordinary operations. My report of the injection is as follows:

Nov. 10th, 1865.—The parts being all quiet, though the dull vascularity of the skin towards the sternum continued, I made the first injection to-day. Having a long silver cannula, steel pointed, screwed on a vulcanite syringe, and in order, I filled it with a solution of chloride of zinc in distilled water, of the strength of one grain to one ounce. Then, introducing the cannula about an inch from the middle of the sternum below the red part, I slowly thrust it up in the subcutaneous tissue for two inches. I held it steady for a minute or two, that the bleeding in the track of the puncture might cease, and then slowly injected three drachms of the solution. No hæmorrhage occurred; the fluid formed a long bulging prominence, which soon spread out and lost its tension; and, on withdrawing the cannula, no fluid escaped. I dressed it with collodion. The puncture hurt a good deal; and she complained of the stinging of the solution the instant I began to inject it. The latter pain was at once relieved when the cold collodion was laid on, but it returned, and then gradually lessened.

Subsequently, within a brief time, the pain recurred and became severe. It kept her awake till 3 A.M.

Nov. 11th.—There was swelling over the injected spot and along the chest for two or three inches towards the axilla; redness of the skin from the same spot over the fold below it to the furrow next adjoining; much tenderness over the spot and soreness to the mesial line, the inner end of the right clavicle, and rather beyond the redness outwards. No inconvenience in the armpit or tumour. She had suffered so much that she determined to leave to-day. Lest the injected spot should suppurate, I ordered a lead lotion, and requested her to show it on Monday.

Nov. 13th.—She returned to the hospital to-day before going to the country. The redness and swelling had much diminished, and they were now chiefly concentrated over the small remaining swelling from unabsorbed injection. This part was still, but much less, tender; and the integument over it seemed a little more supple than before the injection was made. There was now no more appearance of suppuration.

This excessive and long continued pain, which had led to the patient's abandoning the plan of treatment, may have been simply due to the

chloride of zinc as such. Or it may have been more than usually severe on account of the contact of such a liquid with the deep surface of over-vascular and over-sensitive integument. Or it may have been the result of throwing in a quantity so large as to keep too much in contact with the tissues, and for too long a time.

In the first case, it is remarkable that the pain should have continued so long with one grain to the ounce, while with twenty grains to the ounce the pain was over in an hour and a half. In this latter, however, I threw in two drachms of the liquid, of which not more than one drachm remained. The result, both in that and in this case, was inflammation, without suppuration, and in each patient it far exceeded what I desired to produce, namely: a modification of the nutrition of the local textures. Nevertheless, I have confidence in the zinc, if it be reduced to a bearable strength. I had a solution of pure chlorine prepared, hoping to try it in Mrs. P.

In the second case, the pain may be evaded by making the injection under uninflamed skin, and parts having no tenderness. It is worthy of special notice, that though so irritating, the solution was not of a kind to produce suppuration; a fact closely corresponding with Mr. De Morgan's observation of the result of applying zinc on raw surfaces. It prevented the formation of the pus, even by a tissue already prone to it.

The third suggestion refers also to what may be avoided in future. Whatever liquid I may throw in, which is capable of producing irritation, must be in quantities not exceeding a drachm, and a half drachm might be better. By one puncture in the skin half a drachm might be thrown in in different directions, the north, east, south, and west, of the compass. When thus brought into contact with more tissue, there is more probability, both of its early diffusion and of its speedy chemical union with the albumen of the tissues.

Feb. 10th, 1866.—Mrs. P. was sent back by Dr. Rowe. She had lately lost some sloughs from deep parts of the breast, which she extracted through the chinks. At the bottom of these were now deep clean cancerous ulcers. She suffered much during their detachment. The whole mass was smaller than it had been, and looked quiet. There was no increase of the axillary disease, and she suffered little at present. The injected spot was not now larger than an almond, was red on the surface, was tender, and fluctuated.

After this, I made trial of a still stronger solution of the chloride of zinc. The case was one in which cancer was recurrent in the cheek after an operation. I extract from my notes the account of so much as relates to the injections.

Dec. 21st, 1865.—The wound was granulating healthy in all but two parts; at the lower lip and along an inch of its lowest edge. At both these parts, the granulations are prominent, the skin firm, and the appearance cancerous. I injected chloride of zinc, forty grains to the ounce, into and beyond the cancerous parts; introducing the sharp fine cannula on the granulating surface, and injecting in various directions a few drops of the liquid. Very sharp pain (he compared it to an adder's sting) immediately came on, and continued more than two hours. The next day there was whitening of the cancerous granulations without slough, and some œdema and trifling swelling of the lips and cheek, and of the neck near the lower injected edge. The day following it had nearly subsided.

Dec. 25th.—The injected parts had dried, shrunk, and apparently sloughed.

Jan. 4th, 1866.—I removed a thick large slough, the remains of tissue killed by the injection.

Jan. 8th, 1865.—I endeavoured to inject into the healthy tissues of the lower lip, through the doubtfully diseased granulations of that part, a little of the filtered sediment of liq. calcis. Through one aperture, I pushed in two directions half a drachm or less; but the third puncture was useless, as the canula became clogged, and the clear liquid oozed through at the joint under the pressure I used against the piston. None of the material passed into the tissues.

Jan. 15th.—Little result; only trifling swelling. Cancer remains in the anterior part and rather increasing. I injected a saturated solution of sulphate of iron, which stung, but in a different way from, and less severely than, the chloride, and continued more than an hour. The result was an ink-black slough of the injected part.

Since writing the principal part of this communication, I have become aware, by a letter in another journal, that Sir James Y. Simpson must be regarded as the author of the method of injecting medicinal substances into tumours, as he actually practised it with success about ten years ago. This announcement renders further discussion of the priority in originating that method unnecessary. My observations on the subject may nevertheless appear to you worthy of consideration for their own sake.—*British Medical Journal.*

Midwifery and Diseases of Women and Children.

OVARIAN PREGNANCY, WITH DELIVERY OF THE FŒTUS PER ANUM—PERFECT RECOVERY.

A case communicated to the *Gesellschaft fur Heilkunde*, by Dr. Julius Beer, of Berlin. The wife of a merchant, of Berlin, thirty years old

was, as primipara, in 1856, safely delivered. In November, 1862, she felt somewhat unwell, and had severe pain in the left hypogastric region, which showed an egg-shaped swelling. It was treated as wind colic, but the condition became worse. The catamenia ceased for nine weeks, but pregnancy was not made out. The patient was then seen by Dr. Hildebrandt, who made the diagnosis of a pregnant (?) uterus (uterus contentum), without, however, being able to give a decided solution of the question. Ordered absolute rest in the recumbent posture, oatmeal poultice for twenty days on the tumor in the ovarial region. The patient was also ordered, by a *sage femme*, to take a cold sit bath twice a day, with a view to the removal of hæmorrhoids. Naturally enough Madame G. became very sick, and Dr. Hildebrandt found, on exploration, excessive painfulness of the swelling, for the relief of which many leeches were applied. At the next consultation, an entirely normal pregnancy was diagnosticated by one physician, and denied by the other. In the seventh month of pregnancy, the patient took a great many laxatives, on account of constipation of the bowels. In the meantime the writer was called, who examined the uterus very closely, and gave the opinion that the woman was not pregnant, but that an abortion had taken place some time before. The tumor in the left hypogastrium I did not find. The woman, with whom I was previously entirely unacquainted, informed me that she had suddenly got very thin, and hence I formed the idea that perhaps there had been a mole (mola), and I ordered something for the relief of the abdominal pain. As I afterwards learned from a relative of the patient, on the 2nd of January, 1864, after an almost colliquative diarrhœa, with very great pain, two skull bones, as symmetrical as oyster-shells, the parietal bones of a fœtus, with other very fœtid parts, were passed per anum.

This is a fact, as substantiated by actual sight, for I know that there was a case where it was possibly simulation, in order to make the subject of it interesting. (The writer here speaks of similar cases.) Pathological anatomy has shown that in such cases a sac is formed, which is united with a loop of intestine, whereupon this intermediate partition-wall is broken through to allow the bones to pass. Whether all the parts of the child followed those which have been enumerated in this case is not certain. It is probable, however, since the patient Frau G. remains well and without pain.

Dr. Hildebrandt describes the same case as follows: "Frau G. came under my treatment December 30, 1863. *Status præsens.*—Intumescentia uteri; left ovarial region very painful and somewhat swollen; shooting pains in left hip; suppression of menses for more than two

months; slight fever. *Course.*—Pain in the side and hip, increased at times to unbearableness; sleepless nights. Jan. 13.—Consultation with Geh. Rath. M., who believed there was a normal pregnancy between the third and fourth months. In February the pain abated, and on the 22nd of February a hæmorrhage from the genitals occurred, which lasted some days. On the 1st of December patient was again under treatment, with a diarrhœa which had existed for almost two months, with intermitting hardness of the bowels, inducing a permanent sense of pressure. The tumor in the side had disappeared. *Uterus normal. Menses for some weeks regular.* Passage of the ossa parietalia on the 28th of December. Patient now well."—*Deutsche Klinik*, Nov. 9, 1866.—*Medical Record.*

THE ABETMENT OF CRIMINAL ARORTION BY MEDICAL MEN.

By Horatio R. Storer, M.D., of Boston, Assistant in Obstetrics and Medical Jurisprudence in Harvard University.

In a previous printed communication* I furnished additional evidence to that I had already presented to the profession, of the frequency of abortions, both explainable and unexplainable by natural causes. It may be recollected that, so long ago as 1857, a statistical return was rendered to the Suffolk District Medical Society, from my private practice, based upon inquiries put to patients who were not merely married and of respectable character, but of good social standing, from which it appeared that intentional abortions must be of very much greater frequency than had been supposed. This result, being based upon positive evidence, that of confession, could not be invalidated by the doubts of any gentleman who had not pursued a similar course of inquiry, and the point which it involved has since been corroborated by many credible witnesses.

From the date referred to, a period of nine years, I have now steadily kept one end in view, and from a constantly increasing practice, at first more particularly and for several years entirely devoted to the special diseases of women, I have been led to recognize certain general laws, to which I shall now but briefly allude. Among these are the following:

1. That while, owing to the advance of our knowledge in the treatment

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*Studies of Abortion. Boston. Med. and Surg. Journal, Feb. 5, 1863.

of child-bed, more children are born living than formerly and more mothers saved, and owing to our wiser treatment of the diseases of children and their exposure to better sanitary conditions, a much larger percentage of them reach maturity, yet among the better class of inhabitants fewer infants are born; that is to say, that the average number of births to each Protestant family is less than it was half a century ago.

2. That of the pregnancies in reality occuring in this class, fewer reach completion.

3. That of the instances of conjugal intercourse taking place, fewer result in impregnation.

4. That of these incomplete pregnancies and apparent instances of sterility, a large proportion are intentional.

5. That such willful interference with the laws of nature is productive, as might have been expected, of a vast amount of disease—disease whose causation has been unexplained, and whose character is made evident alike by the confessions of the patient, and by the results of a more natural course of life.

5. That intentional abortions are a greater tax upon a woman's health and more surely followed by uterine disease than pregnancies completed, and this even though the patient may seem to rally from them with impunity—the result showing itself, if not immediately, then after a lapse of years, or at the turn of life.

7. That the systematic prevention of pregnancy, by whatever means, is also followed by prejudicial effects, affecting the nervous and the uterine systems, not unfrequently producing sterility from an organic cause, and laying the foundation of serious or incurable disease.

8. That when such prevention is occasioned by incompleted intercourse whether effected by the use of capotes or by untimely withdrawal, the effect is equally bad for the husband's health as for that of the wife—there resulting dyspepsia, functional or organic nervous disease, and at times impotence, temporary or persistent.

To the latter of these dogmas, partially included as are its cases in the range of my present professional observation, I am glad that I have the support of my friend, Prof. Bumstead, of New York, who is now known as the best American authority in the sexual diseases of men. He has lately written me as follows:

"I would gladly talk with you about one point you allude to in your letter, to wit, the effect upon the health and upon the genital power of various preventives against conception. In the early part of my practice I was exceedingly sceptical with regard to any evil resulting therefrom; but I have so often been applied to by men complaining of loss of virile power,

and who, I have found, have been in the habit of 'withdrawing' or else using condoms, that for several years past I have looked upon this as a cause of impotence."*

As to the physical evils of forced abortions and of the prevention of pregnancy, no one who is at all devoted to the study and treatment of the diseases of woman can have failed to perceive them, and scarce an author has dared to approach this subject. Not a word upon it is said by Whitehead, the best English authority upon abortion and sterility; not a word by Gardner, of New York, the best American systematic writer upon the latter topic, and it has not been referred to by Marion Sims, in his work just published. The evils alluded to seem to have first been distinctly pointed out to the profession by my father, in 1855, in an Introductory Address, delivered to the class at Harvard Medical College; and yet such was the fear of several of the faculty at that time lest the facts in the case had been misobserved, or lest erroneous conclusions had been deduced from them, or lest their avowal might prejudice the school in the eyes of the community, that they urged upon their lecturer the suppression of the very pith and marrow of his address. I am sorry to say that the gentlemen carried their point, but I know the concession was only one of courtesy and by no means one of conviction. If our alma mater, in any of her provinces, ever fears to allow the truth to be spoken, she is recreant both *Christo et Ecclesiæ* and to all her old traditions, and one at least of her sons will not hesitate to upbraid her for violating the ethics she herself has taught him.†

The physical evils to women, of which I have spoken, have been deemed by the American Medical Association of sufficient importance to warrant an appeal upon the part of the profession to women themselves, a course which was long ago warmly commended by excellent authorities as by the *Boston Medical and Surgical Journal*, in an editorial article published, Dec. 13, 1855,‡ and the little "Why not? a Book for every Woman," that is now circulating throughout the country, in obedience to the command of the Association, may do something to prevent the evils which we are often anxious but powerless to cure.

I have more than once urged upon the profession the interference with the normal process of procreation, whether by preventing pregnancy, or by

* I took occasion to refer to the above topic in my article on the "Medico-Legal Relations of Rape" (this Journal, Nov., 1865), and to Dr. Bumstead's corrobation of my opinion.

† For a free discussion of this whole matter, see the Boston Medical and Surgical Journal, for December, 1855, p. 409.

‡ Ut Supra, 4. Boston: Lee & Shepard. 1866.

cutting it short when established, was a serious cause of injury to the nervous as well as to the uterine system.

These views have been presented more distinctly in the last published volume of the American Medical Association.* Every day more and more confirms me in my conviction concerning their truth, and it is within the present week that, at a long and most interesting personal conference, my good friend, Dr. John S. Butler, Superintendent of the Retreat for the Insane, at Hartford, has communicated to me, from his own private and public practice, many cases of insanity in women, based as to causation upon the induction of criminal abortion, and the systematic prevention of pregnancy. They are simply corroborative of what I have myself repeatedly observed.

Upon all the points that I have indicated there is very much of interest that has never yet been said, and for this, it must be confessed, there is pressing need.

It has become useless for any one to allege, as has so often hitherto been done, that attention must not be given or called to these important subjects. Some of the most intelligent physicians of Great Britain and the Continent are now engaged in their investigation. The sexual relations lie at the very foundation of society; their aberrations are not the result of chance, but of an efficient cause; when general and common, then, these are occasioned by habits and customs which rest directly upon the moral sense of the community. The abnormal customs referred to are productive of much disease and of many kinds; and these, like all others, whatever their symptoms, can only be rationally treated by reaching their cause. It is untrue that discussion but spreads the evil. To cure a fetid and burrowing sore, it must be freely laid open and exposed.

In the present paper I intend to confine myself to the consideration, and this but partially, of a single point—interesting to every member of the profession—namely, the abetment of criminal abortion by medical men.

To the importance of this question, and to some of its aspects, I have already alluded in the sixth of my eight serial articles upon the medico-legal relations of abortion, published in 1859, in Philadelphia,† in which I spoke of the various manners in which members of our profession innocently, but very directly, become abettors of the crime. It was there shown that by any apparent disregard of the existence or sanctity of fœtal

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* Transactions of Am. Med. Association. Vol. xvi., 1865, p. 122.

† North American Medico-Chirurgical Review, July, 1859, p. 643.

life, however evinced, we in reality increased its disregard by the community. If a physician appear to consider an unborn child of little or no account, why should not his patients also? I have also referred to this same unintentional abetment of abortion by medical men, in the prize essay of the American Medical Association.*

Few will doubt that my opportunities have been good for observation in this matter. The decided opinions that I have avowed, met as they were at first by so free expression of scepticism and indeed of denial, could but awaken a corresponding degree of interest in minds alive to the importance of the subject; and my repeated consultation, personally or by letter, concerning abortion by many of the leading practitioners of this country may perhaps give a weight to the remarks I may now make, that formerly might have seemed presumptuous for me to claim.

It will be recollected that in 1859, by order of the American Medical Association, a memorial was presented in its name to "the several Legislative Assemblies of the Union, with the prayer that the laws by which the crime of abortion is attempted to be controlled may be revised, and that such other action may be taken in the premises as they in their wisdom may deem necessary;" and that the association requested also, by formal memorial, "the zealous co-operation of the various State Medical Societies in impressing this subject upon the Legislatures of their respective States." †

This action was based upon a long, careful and very thorough examination of the whole subject by a committee consisting of Drs. Blatchford, of Troy, N. Y. (now lately deceased); Hodge, of Philadelphia; Pope, of St. Louis; Barton, of South Carolinia; Lopez, of Mobile; Semmes, of the District of Columbia; Brisbane, of Wisconsin, and the writer, who were unanimously of opinion that the action desired was necessary.

A similar conclusion had previously been reached by a committee appointed by the Suffolk District Society, of this city, in 1857, consisting of Drs. Bowditch, Calvin Ellis, and myself; and yet—in the face of the fact that in this commonwealth, according to the reports of Attorney-General during the eight years from 1849 to 1857, omitting 1853, as there seems to have been no report rendered for that year, there were thirty-two trials for abortion, and not a single conviction—the Councillors of the State Medical Society of Massachusetts, to whom the propriety of a professional appeal to the Legislature for more protective statutes had been referred, decided

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*Trans. Am. Med. Association, vol. xvi., 1865, p. 709.

† Trans. of Am. Med. Association, vol. xii., p. 75.

that "the laws of the Commonwealth are already sufficiently stringent, provided they are executed."*

It is not, however, the stringency of a statute, so far as by this is meant the severity of its punishments, but the certainty of their infliction, that is efficient to check a crime. By the laws of Massachusetts, the crime of abortion is considered as mainly against the person of the mother. In the case of her death, already sufficiently provided for at common law, convictions can indeed be effected, though with great difficulty, under the statute. If she lives, the crime practically goes unpunished. It is true that a few convictions have been obtained with us during the three years since 1863, but only by great effort, and probably in consequence mainly of the attention we have directed to the subject.

I have elsewhere called attention to this fact and to its explanation. "It has been thought, even publicly argued, that in the fact that statutes against abortion are almost everywhere not only not enforced, but not attempted to be enforced, there is afforded strong evidence of the existence of an ultimate and absolute impossibility of thus meeting the crime. The idea, though a fallacious one, is yet attributable to an important and evident cause.

"That the prevalence of abortion is in great measure owing to ignorance of guilt, on the part of the community at large, we have shown. We now assert that its futile prohibition by the law, is toleration, are plainly in consequence of similar ignorance on the part of legislators and of officers of justice.

"Our communities form their own laws, and, therefore, as was pointed out at the commencement of our remarks, these must necessarily bear the stamp of public opinion; while the officers by whom they are to be enforced—jurors, attorney, judge—looking to the only source possible for their enlightenment on this subject to medical men, have hitherto found but few

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* Medical communications of the Massachusetts Medical Society, 1858, p. 77. How different from this was the action of the State Medical Society of New York. At its anual meeting of 1860, "Dr. Brinsmade, from the committee appointed to consider the recommendations of the American Medical Association, reported the following resolution, which was adopted: "That the society cordially approves of the action of the American Medical Association in its efforts to exhibit the extent of the evils resulting from the procuring of criminal abortion, and of the means which are to prevent its commission, and cheerfully comply with the request to a zealous co-operation for the furtherance of more stringent legislation in regard to this most destructive and revolting crime, committed almost with impunity, and with appalling frequency."—*Philadelphia Medical and Surgical Reporter, Feb.*, 1860, p. 457.

bold and honest statements, and these unindorsed by the mass of the profession, or, in their total silence, a practical sanction of the popular belief. This is no exaggeration; the assertion is fully borne out by facts. Need we wonder, then that the laws are not enforced, that indeed their enforcement is not attempted?"*

The causes of the general demoralization as regards childbearing I have elsewhere explained.

"There are three of these causes, however," say the committee of the American Medical Association, "and they are the most important with which the medical profession have especially to do.

"The first of these causes is a wide-spread popular ignorance of the true character of the crime—a belief, even among mothers themselves, that the fœtus is not alive till after the period of quickening.

"The second of the agents alluded to, is the fact that the profession themselves are frequently supposed careless of fœtal life; not that its respectable members are ever knowingly and intentionally accessory to the unjustifiable commission of abortion, but that they are thought at times to omit precautions or measures that might prevent the occurrence of so unfortunate an event.

"The third reason of the frightful extent of this crime is found in the grave defects of our laws, both common and statute, as regards the independent and actual existence of the child before birth, as a living being. These errors, which are sufficient in most instances to prevent conviction, are based, and only based, upon mistaken and exploded medical dogmas. With strange inconsistency, the law fully acknowledges the fœtus in utero and its inherent rights for civil purposes; while personally and as criminally affected, it fails to recognize it, and to its life as yet denies all protection."

To the action of the Councillors of the Massachusetts Medical Society, in 1858, based as it was upon the report of the committee appointed by the State Society at large, consisting of Drs. Foster, Hooper, Jacob Bigelow, John Ware, J. C. Dalton, Ebenezer Hunt, Charles Gordon and myself, drawn up and rendered during my necessary absence from this part of the country, and without my being in any way conferred with, I entered by letter to the Councillors my earnest protest. This protest, so far as can be judged by the published proceedings of the Councillors, seems never to have been acted upon.

I should have long since brought the matter before the profession at large, had I not been prevented by ill health. That cause no longer

* Criminal Abortion in America, p. 74.

exists, and after the lapse of eight years, during which the subject has never by me been lost sight of, I am but the more confirmed in the opinion that a grave error was committed by my colleagues. By the vote of the Councillors there was furnished additional ground for the third of the causes mentioned above, by which the profession become directly accountable for the increased frequency of the crime.

The resolutions adopted by the Councillors upon the occasion referred to may have been supposed by some to fully cover the required ground. They are, however, speciously framed—they in reality amount to nothing, begging the vital question, as they completely do, and, as one of the committee by whom they were offered, I again repudiate them.

These resolutions are as follows:

1. "*Resolved*, That the Fellows of the Massachusetts Medical Society regard with disapprobation and abhorrence all attempts to procure or promote abortion, except in cases where it may be necessary for the preservation of the mother's life.

2. "*Resolved*, That when any Fellow of this Society shall become cognizant of any attempt unlawfully to procure abortion, either by persons in the profession or out of it, it shall be the duty of such Fellow immediately to lodge information with some proper legal officer, to the end that such information may lead to the exposure and conviction of the offender."

It will be seen that exposure was here supposed tantamount to insuring conviction, where, under the laws as they exist, conviction has been proved impossible.

It were well did no other apparent sanction than such as this exist on the part of the profession. There are others. Not only is gestation still allowed in many instances to go on to the full time, when a succession of still births by the same patient has shown that the induction of labor a week or two prematurely might save the infant; not only is craniotomy still frequently resorted to where turning or the use of the long forceps might result in a living birth; not only is anæsthesia in child-bed still often neglected or refused, favorable though its employment would be to the life of the child and to that of its mother; not only is ergot extensively used to hasten labor unnecessarily, although its exhibition is undoubtedly in many instances attended with excessive danger to the fœtus; not only is a refusal to nurse, without due reason, on the part of the mother often permitted or advised by the medical attendant, although the breast of its own parent when in health is undoubtedly the best one on all accounts for her child, and far safer for its life than any artificial feeding; but "the criminal abuses likely to arise from the procurement

of justifiable abortion by medical men are so numerous, their own liability to be thought by the public criminally careless of fœtal life or sceptical concerning its existence, is so great, that the subject is worthy special consideration."

That the fœtus is *alive* from the commencement of pregnancy cannot be gainsaid. Questions of physiology have, it is true, arisen regarding the nature of this life—some physicians even asserting that the cardiac pulsations previous to birth are but an instance of the acknowledged irritability of muscular fibre under the stimulus of a certain excitation, in this case, of blood that has in one way or another been decarbonized, or whose carbonization has been but imperfectly effected; and there are many interested persons, abortionists, for instance, who would claim that to pronounce the unborn fœtus alive argues ignorance of the plainest physiological laws. I do not hesitate, however, to assume such imputation, certain as I am of the support of all impartial and competent observers.

The induction of labor prior to the full period of gestation may be justifiably resorted to by physicians for but one of two reasons, either to save the life of the mother or that of her child. In each case it must be absolutely and only to save a life.

Performed before the latter end of the sixth month, the chances are that the child, if born living, will die. Prior to this time, therefore the operation can only be justified by danger to the life of the mother, the child being almost necessarily destroyed. The induction of premature labor, properly so called, performed after the expiration of the period above mentioned, its propriety and necessity in certain cases, its impropriety in others, present points of great incidental importance to the main question we are now discussing; but at the present time I confine myself to abortion, before the seventh month, induced by medical men.

It is believed by the community that the operation is not unfrequently performed. I have already put upon record my belief to the contrary in the following emphatic language:

"It has been often alleged, and oftener supposed, that physicians in good standing not unfrequently, and without lawful justification, induce criminal abortion. This statement, whatever exceptional cases may exist, is wickedly false. The pledge against abortion, to the observance of which Hippocrates compelled his followers, by oath, has ever been considered binding, even more strongly of late centuries. The crime is recognized as such in almost every code of medical ethics; its known commission has always been followed by ignominious expulsion from medical fellowships and fraternity. If this direct penalty be at any time escaped,

it is only through lack of decisive proof—bare suspicion, even, of the crime insuring an actual sundering of all existing professional friendships and ties, a loss that subsequent proof of innocence could hardly restore. Such is the unanimous feeling of the profession; to its credit be it said, that with but a single exception, Jorg of Leipzic, and this to his eternal disgrace, its writers are all agreed, abstractly considering the subject, on the sanctity of fœtal life. The instances where physicians in good standing are guilty of the crime are of rare occurrence—the error that has prevailed on this point originating from the self-assumed titles of notorious quacks and knaves. But no condemnation can be too strong for the physician who has thus forgotten his honor—who has used to destroy life that sacred knowledge by which he was pledged to preserve it."

On the other hand, it is no uncommon thing for women of good position to assert to me that abortion has been induced for them by gentlemen of excellent standing in the profession, especially among the older men, and I am constantly conferred with by other physicians to whom similar charges have been made. Allowing, as I cheerfully do, that many, perhaps the majority, of such allegations must be false, still there is in a certain number of cases a foundation in truth. I do not believe that abortion is often induced by regular physicians, with evil intent; but I do believe that it is not infrequently accidentally occasioned by them, and too often intentionally under a sincere but mistaken idea of its necessity. In the former of these cases, of which quite a number of instances have now been brought to my attention, the suspicion of intentional assistance on the part of the physician is almost sure to be entertained by the patient, especially if she is anxious to escape child-bed, whether or not she has given the slightest intimation whatever of her possible pregnancy. In the latter of the cases supposed, if the attendant knowingly kills the child, whatever the supposed necessity, without having first held a consultation upon the point with another physician, he should be held amenable to the bar of professional opinion, if not to that of the law, for having directly encouraged the crime.

In another communication I will confirm my assertion that professional abortions, accidental, should be more carefully avoided, and intentional should more seldom be resorted to, and never upon a single, unaided opinion.—*New York Medical Journal.*

OBSTETRICAL SOCIETY OF LONDON.

A paper, by Dr. C. H. F. Routh, was read "On a New Mode of Treating Epithelial Cancer of the Cervix Uteri and its Cavity."

The author, after referring to the able papers of Mr. Moore on cancer, said that the use of bromine as a local agent was first suggested to him by his colleague, Dr. Wynn Williams. Dr. Routh then related two cases admitted under his care at the Samaritan Hospital. In the first, the patient was thin, pale, and haggard, losing blood continually. There was a mass of fungoid epithelial growths, taking their origin from the os uteri, and about the size of an egg. The actual cautery was used to check the bleeding, and after the slough had come away a solution of bromine—five minims, to fifty of spirits of wine—was used. A piece of lint, the anterior surface of which was well saturated with the solution, was applied to the uterine diseased surface, and kept *in situ* by pledgets of lint. After forty-eight hours it was removed, and the part dressed at night with a poultice of lint dipped in warm water, and during the day warm douches were applied. In about a week a slough came away, and left a large healthy granulating surface. Tannin, with glycerine, was applied, and used daily. The patient also took internally the iodide of arsenic, with extract of conium. After a period of ten weeks she was fat, hearty, and well-coloured; but as she occasionally lost a drop of blood, Dr. Routh carefully examined the internal surface of the uterus, and found about a quarter of its lining membrane affected with epithelioma. She left the hospital for some weeks, and on being readmitted, a piece of wood, about the size of the uterine cavity, was prepared, and covered with cotton; the upper part was dipped in a saturated solution of carbonate of soda, the lower in the bromine solution, and it was passed up and left within the uterus. Two or three further applications of the bromine, with glycerine, were necessary, and the patient left the hospital with a moveable healthy uterus.

In the second case there was a large carcimatous mass, about the size of an orange, attached to the os, which appeared to be large cauliflower excrescences, breaking down readily and bleeding at the slightest touch. On January 20th the mass was removed by the wire écraseur, and a few days afterwards the spiritous solution of bromine was applied. She took internally the iodide of arsenic and conium, and was treated in the same manner as the first case. She left the hospital on April 2, with a moveable uterus covered with healthy mucous membrane, and looking herself fat and hearty.

The author remarked that he was quite aware that two cases afford an insufficient criterion as to the value of any remedy, and that time had not been allowed to prove that the cures were lasting. Notwithstanding these objections, he thought, at the same time, there were some considerations which made an early publication of these cases desi

The author concluded by drawing attention to the care necessary in mixing the bromine with the spirits, which should be done very gradually, to avoid an explosion. He hoped others would try the agent he now brought forward, and give the results of their experience. He believed it to be a potent and useful remedy, and likely to prove of service, if not in the cure absolutely, at least in the arrest of the progress of cancer.—*Medical Times and Gazette.*

Miscellaneous.

A USEFUL HINT.

In Vienna the use of sulphate of iron as a deodorizer has had a most beneficial result. According to the *Presse*, the rats have been so effectually destroyed by the use of green vitriol, that recently Professor Hyrtl was unable to procure a supply of that animal for experimental purposes. There is no better or cheaper substance known as a deodorizer, or, as some people call it, disinfectant; and if it results in the wholesale destruction of these pests, we would advise its use freely in our city drains.

POISONING BY THE EXTERNAL USE OF BELLADONNA.

Two cases of poisoning by the external use of belladonna are mentioned in the London Hospital reports; the first that of a nobleman, for whom a liniment of two ounces, containing two drachms of liquor belladonna, was prescribed. The symptoms exhibited were a rapid pulse, great central excitement, and a widely dilated pupil. The other a case of a servant girl, who, for painful breasts sought advice, when a chemist prescribed ʒ ss. of ext. belladonna in ℥ j. of water. The same symptoms were observed. Both cases rapidly recovered on stopping the application.

Canada Medical Journal.

MONTREAL, NOVEMBER, 1866.

REPORT OF THE MEDICAL SUPERINTENDENT OF THE PROVINCIAL LUNATIC ASYLUM, TORONTO.

We had intended before this referring to the able and important report of the Medical Superintendent of the Provincial Lunatic Asylum at Toronto, and we feel certain that no unbiassed reader can peruse this report without endorsing fully the views propounded by the talented author. We have, again and again, contributed our protest against the systematic neglect of these unfortunate patients; but it remained for Dr. Workman to point out what is the true solution of the difficulty. A man who is afflicted by insanity or any other malady becomes a charge on his friends if he has any, or on the community, if he has no relatives willing and able to succour him in his distress. In the case of the insane man prompt and active treatment by isolation and appropriate medication is the only hope he has of ultimate recovery. If left for a time without that care which is acknowledged to be his only chance, his disease becomes a settled madness.

Dr. Workman has pointed out this in connection with the system adopted in our country.

There are here in Canada seven asylums for the insane, five in Upper Canada, and two in the lower section of the Province. These seven asylums are full to repletion, the inmates being of that class who have little or no chance of deriving benefit from any treatment. These necessarily occupy the room in our asylums which should be reserved for cases of acute mania. The doctor proposes the establishment of secondary asylums for the residence of incurables. The primary asylums or insane hospitals being reserved for recent cases.

"*The great want seems to me to be the institution of a comprehensive and humane system of providing for the chronic and incurable.* This is now most inadequately attempted by their retention in our primary asylums, with the collateral aid, since 1856, of the three branch asylums. All are now full; and the demand for further accommodation, instead of decreasing, is constantly augmenting. Multiplication of branch asylums, such as those hitherto established, is by no means desirable; but even were the case otherwise, it is very doubtful if any government we may ever have in Canada, would feel disposed to augment the charge upon the pro-

vincial revenue for the support of the insane to the figure requisite; and if it should retain the purpose of continuing in this responsibility, it is a fact requiring no demonstration, that the fiscal concessions would always lag many years behind the actual requirements; and would hardly ever be made until the evil resulting from its procrastination had assumed a magnitude and intensity no longer to be ignored."

"If the provincial exchequer make provision for the primary treatment of insanity in curative hospitals, and afford to every case requiring asylum benefit privilege of residence for a definite period—say two years—it appears to me it would have done all that should be expected from it. After this period, the support of the unrecovered should be devolved on the respective municipalities; but the measure of support, and the mode of administering it, should not at all be left at the option of these corporations."

Here then is the remedy: if the government were to establish insane hospitals, two or three would be sufficient for the whole country, and after residence of the afflicted in these institutions for two years, without benefit, to transfer them to a secondary asylum, there to remain a charge on the municipality from whom they originally came. But as Dr. Workman very justly observes "the measures for support and mode of "administering it should not be left to the option of these corporations." A special tax should be levied, and the administration of the secondary institutions should be under the control of special inspectors. By the present system of affording relief, we are each year augmenting to a serious extent, the number of cases of incurables, many of whom would undoubtedly have been restored to the industrial population had prompt measures for their relief been adopted. Is it curative to place in a prison cell, an unfortunate person whose brain has been overwrought, who in the wildness of his paroxysm sees

"More devils than vast hell can hold?"

Can it, we say, afford him a chance of recovery by placing him in a cell of one of our gaols, there to be attended to by ignorant men, and there retained until a death-vacancy occurs in one of our asylums? What would be the death-rate of any of our hospitals, if an individual, to obtain admission there for any bodily disease, had to be sent to a prison for a certain probationary period, or until some unfortunate predecessor had bequeathed his bed by surrendering his life? Can there be anything more grossly barbarous than this system of treating disease. We are willing to admit that the Government have erred through ignorance; but now, since the publication of this most important document, the excuse of not knowing better cannot be offered.

The following case has been communicated to us by a confrère, and, as it is to the point, we give it:

A poor servant girl, of excellent character, was attacked with erysipelas of the scalp, and sent to the Montreal General Hospital. After a severe illness she recovered; but shortly after became violently maniacal—indeed so violent as to require restraint. Her bodily health was not much impaired, and the case was evidently one requiring special and careful treatment, in a proper asylum. Nothing could be worse for her than to send her to the gaol, where nothing approaching proper treatment could, in the nature of things, be expected; and where the poor girl might be associated with the obscene or violent lunatic or filthy idiot. What could be done? Application was made to one of the judges for a special order, which application, after some consideration, was refused; and the poor creature—helpless—unfriended—insane—sick—was sent to a place intended for the vilest characters. Even her short and accidental residence will perhaps be a source of life-long humiliation.

A little farther on in the report will be found views very generally entertained in regard to the causes of insanity. The most fruitful of which is that moral sin, self-abuse; or, in plainer language, the filthy practice of masturbation; learnt at school by most boys, and carried on in after life by many, to the sapping of the foundation of all that is pure, holy, healthful and intellectual. This portion of the report should be read attentively by moral reformers, and all others, who are desirous of banishing forever this pestilential habit. We cannot do better than conclude these remarks with one extract, as a species of guide to those who are not acquainted with the peculiar conditions of health, or characteristic features which persons resorting to such practices nearly always exhibit. Friends too often attribute attacks of mania to disappointed love or religious fervour. On this head the doctor remarks:

"The skilful physician who measures the feeble, paltry, accelerated, yet lazy pulse—who feels the clammy, cool, somewhat repulsive skin—who notes the pallid countenance, the waxy features, and frequently foul breath—who tries to gain one steady, confiding, open look from his patient, and whose questions in a certain suspected direction are met with hesitation, equivocation, or affected mortification, well knows how much truth there is in the charge against Love: and he will, in similar cases, acquit Religion."

We have been requested to call attention to the following note addressed to members of the medical profession in Canada. Dr. Marsden is well known to the profession as a gentleman of acute observation and

untiring research, and we feel convinced that the paper he is desirous of submitting to the American Medical Association at its next meeting will be a most important document. Valuable in containing the experience of the doctor himself, an experience extending over all the epidemics of cholera since its first appearance on this continent; and likewise valuable as giving (we trust) a host of evidence from medical observers in other parts of the Province. We hope that all who have reliable information will communicate it as fully as possible. The information thus gathered we may reasonably expect to see issue from the press in book form. The object is truth unbiased, and the profession owe it to the Doctor to fully sustain his praiseworthy desire in aid of setting at rest this vexed question of the portability and communicability of Asiatic cholera:—

To the Members of the Medical Profession on this Continent:

GENTLEMEN,—Having again been unanimously elected by the College of Physians and Surgeons of Lower Canada delegate to the Annual Session of the American Medical Association to be held in Cincinnati, Ohio, on the first Tuesday of May next, I beg to announce my intention to present a paper to the Association "*On the Infectious Character of Asiatic Cholera, its Portability and Communicability.*"

With a desire to render it as full and complete as possible, I shall feel greatly obliged to such members of the profession as may be pleased to furnish me with any facts sustaining these views, that may have come within their knowledge or under their observation during the recent or any former visitation of this pestilence, for which they will be duly credited.

Address, until the 1st of April next,

W. MARSDEN, M.D.,
Place D'Armes, Quebec, Canada East.

Dr. Kenneth Reid, whom our Montreal readers will recollect as a very distinguished student who graduated with high honours here in May, 1864, has just returned from Europe, whence he has brought with him credentials of his doings there in the shape of several diplomas. He seems to have devoted himself with unceasing attention to practical medicine and surgery. Diseases of the eye have been diligently studied under the Younger Desmars and others in Paris, and will probably be that branch of the healing art to which Mr. Reid will ultimately more especially devote himself. In the meantime, his services have been secured by the Health Department at Staten Island, N.Y. We must congratulate the quarantine authorities on their quick recognition of our able young *colaborateur's* abilities; while we, in Canada, shall watch his career with peculiar interest.

CANADA

MEDICAL JOURNAL.

ORIGINAL COMMUNICATIONS.

Variations in the Great Arterial Blood Vessels. By GEORGE DUNCAN GIBB, M.D., LL.D., Member of the Royal College of Physicians, London; Assistant Physician and Lecturer on Forensic Medicine, Westminster Hospital, London.

Variations in the origin and distribution of the great arterial blood vessels in the human frame are sufficiently infrequent to invite the consideration of the biologist, more especially when there is a striking and well-marked deviation from the standard normal type.

Although I have seen several instances of variation in the vessels arising from the aorta preserved in many of the museums, and indeed elsewhere, I am content on the present occasion to bring forward two striking examples in adult white individuals, which I had the opportunity of carefully investigating, and I am especially induced to do this, inasmuch as in one of them the peculiarity observed, so far as I am aware on careful investigation, is quite unique.

It must be remarked that deviations in the origin of the great vessels from the aorta are seldom—indeed it may be said never—recognised during life, that is to say when they occur congenitally. And as they are only disovered when life has ceased, they do not constitute a condition of morbidity any more than what is observed in the rare examples of transposition of the viscera. Whether they exert any disposition or liability to morbid action, I think is extremely improbable, as nature so beautifully regulates the compensating forces as to leave nothing to be desired in the completion and easy working of the great processes going on within the human machine, the circulation to wit, amongst others. As far as I know these peculiarities occur in persons, not subject to any external manifestation of abnormity, for in reality they constitute deviations from a normal standard, and are not deficiencies.

The subject has been ably considered by some of the greatest anato-

mists, and especially by one who, I am happy to say, lives to see how much his labours in this field of inquiry are universally appreciated by men of science: I allude to Mr. Quain, whose truly magnificent work on the arteries is a monument that will endure for ages yet to come.

In the first of the two examples which engaged my attention, the aorta gave up four branches, instead of the usual three. These were the left carotid and subclavian arising in the usual manner, and the right carotid and subclavian, each arising direct from the arch of the aorta by a distinct and separate trunk, there being an absence in consequence of the innominata. The two vessels on the right side were larger than on the left; the left carotid was the smallest vessel of the four. The course of these vessels was the usual one, but the laryngeal branch of the superior thyroid artery of the left side, perforated the thyroid cartilage, instead of passing inwards through the thyro-hyoid membrane in the usual manner. On the right side however this vessel did perforate that membrane. This peculiarity has been described and figured by Mr. Quain, and my diagram of it, recently exhibited before the British Association at Nottingham, has been mainly framed upon his.

Both femoral arteries varied in their division—that on the right side divided into two branches at Poupart's ligament, the anterior taking the usual course of the femoral, whilst the posterior continued downwards and inwards, giving off its different branches irregularly, and different from usual. The left femoral on the other hand, divided into three branches—some might call it four, from the internal circumflex originating near the origin of the profunda. I do not purpose considering them. The left great ischiatic nerve divided into two branches on its emergence from the great ischiatic foramen, whilst the right great ischiatic nerve was normal.

The singular feature was noticed in this individual, that the left side had remarkable peculiarities, which were not observable on the right; for example the left femoral artery and great ischiatic nerve differed from those on the right side in their general division, and so did the left laryngeal branch of the superior thyroid from the right as already described.

It is not my intention to say anything of the morbid changes that were noticed in the person, a man of sixty, who died of phthisis, who possessed these peculiarities, as they had nothing to do with them. But it may be stated, that all the arterial trunks with their ramifications, both of the upper and lower extremities, and noticed during life, were in a state of firm calcification, the vessels had become converted into hard cylinders, and could not be compressed without fracture. This

condition was absent in the four vessels that sprang from the arch of the aorta, and did not involve those of the neck, but commenced in the axillary on either side. It likewise commenced in the iliacs and extended downwards. The age represented by the person thus circumstanced was 100 years, although not in reality more than sixty, and he may be said popularly to have had his arterial blood vessels converted into bone. The muscles were normal in their arrangement.

The comparative infrequency of four separate trunks being given off from the aorta—without crossing one another or going to opposite sides,—and excluding the vertebral which sometimes arises from the aorta—is perhaps not very great, as in the instance under consideration. But taken with some peculiarities in the vessels on the left side of the body and more especially in the left great ischiatic nerve, the deviation becomes one of general interest.

In the other and second instance, the aorta is *almost* disposed to confine itself to the well known usual type, but on careful examination it was seen that the main trunk had divided into *two great branches*, the *first* of which subdivided into the innominata and left carotid, the latter crossing the trachea obliquely upwards to the left side; the innominata divided into the two usual branches of right subclavian and carotid.

The *other* subdivision of the arch was into the left subclavian and descending aorta, both vessels taking their usual course.

If my interpretation of this peculiarity is correct, then we have a unique instance of division of the aorta into two branches, which in their subdivision give off the proper trunks.

No similar example has been found, even in Mr. Quain's great work, and the inference is that it is unique. Differing from the first case considered, there were no peculiarities noticed in other parts of the body.

So striking was the appearance presented by the aorta in its division, that when first seen, it immediately attracted special notice. (The specimen is preserved, labelled B. C. 4).

Mr. Quain gives three examples of reduction of the primary branches to two, as in figures 6, 7 and 8 of his 6th plate. The nearest approach to my example is his No. 6; but a comparison of the two figures will show that in mine the parent trunk is even larger than that part of the aorta going to the left, and I may say that I was *particularly* careful to give a correct rendering of this peculiarity of division, on the spot, at the time of its discovery, so as to avoid any possibility of error.

The only example of a dichotomous division of the aorta in a normal condition which exists in ourselves is at its termination into the two

iliacs. But in the example under consideration we have the occurrence of such a remarkable phenomenon—for so it may be called—at the very commencement of the great arterial system. It is possible that others may have met with a similar instance, although as stated before none have been recorded.

Besides the desire of contributing something decidedly new to our biological knowledge, I have believed that the examples brought forward might stimulate others to work in a field of enquiry which, though well worked, still affords now and then something that has not been before witnessed; and a multiplication of valuable facts on the subject of the present paper cannot but prove eminently useful to science.

With regard to these peculiarities of the arteries of the aorta, can we draw any inferences of value explanatory of their occurrence, or do they possess any bearing upon the physical structure of the economy?

There is no explanation of their occurrence afforded, beyond the fact that such peculiarities as occur rarely in the human subject are common in some of the lower animals, to wit, the quadrumana; and therefore they merely point to a connecting link in the chain of progressive development in the animal creation. It has been asserted that the great arterial vessel known as the aorta gives off in many instances four great trunks in the Negro; but as it has been noticed probably as often in the white race, we are not justified *at present* in drawing any conclusions, that the black race are necessarily of an inferior type to their white brethren from an approach to the quadrumana in the arrangement of the aortic blood vessels, nor indeed am I aware that it is common to the black race.

Nor can we assume that these peculiarities exert any special influence over any part of the animal economy, unless that their co-existence in other parts of the body may give rise to morbid conditions demanding surgical interference.

This short paper with several diagrams, was brought before the biological section of the *British Association for the Advancement of Science* at the Nottingham meeting in August last, and I am induced to send it for publication in the *Canada Medical Journal*, inasmuch as the second and more remarkable variation described in the paper is preserved in the museum of the French School of Medicine at Montreal, marked B. C. 4, and where I trust it may still be seen.

1 Bryanston Street, Portman Square.

London, November, 1866.

A Case of Triplets. By GEO. D. SPOONER, M.D., Clarke, C.W.

ON March 21st, 1864,—I was called to attend Mrs. D,——,the mother of several children, in her then expected accouchement. On my arrival I found the child born and in the arms of a nurse, but the patient, as I observed on approaching the bed, did not appear as if she had given birth to a little one. Had some slight pains, and an examination revealed another presentation (head), and in half an hour the second child was born. I was again surprised to find that that made no apparent diminution in the size of the abdomen. Made another examination and found another child, breech presenting, which in another half hour was brought into the world. I had considerable difficulty in getting the last to respire; but after diligent perseverance, with hot and cold water alternately applied, and inflation of its lungs by direct application of my own mouth, I had the satisfaction of hearing the little thing cry very vigorously.

There were three placentæ and two sets of membranes: the cords were remarkably short, the longest being fifteen inches, the shortest eleven. The mother made a good recovery; and now, thirty-three months after, "*the three*" are as well-grown and healthy looking as any in the country. At their birth they weighed $5\frac{3}{4}$, $6\frac{1}{4}$ and $6\frac{1}{2}$ lbs., one being a girl, and two boys.

December 7th, 1866.

CANNIFF'S PRINCIPLES OF SURGERY.

To the Editor of the Canada Medical Journal.

Would I trespass too much upon your space in making a few remarks respecting the very kind notice you have been pleased to give of my Principles of Surgery?

I do not come as a fault finder, for you have accorded me no little credit. But I would beg permission to demur to your statement that you "cannot commend the book as containing original teaching, the result of extended observation." The same thing has been stated by a Medical Journal in the United States, although the Medical Press there has bestowed upon the work praise of the most decided kind.

This broad statement at the commencement of your remarks, beyond which some readers might not go, I fear may leave an erroneous impression upon the minds of some, as to your opinion of the work. The credit you subsequently grant me is most gratifying, and would almost be sufficient to satisfy any one; but an author, when he thinks he has given to the public original thoughts in connection with the thoughts of

others (which he has in many cases digested) is unwilling that his own should be quite obscured by the latter. Such it seems to me, is the position I occupy; while in my prefatory remarks I candidly acknowledge the several sources from which I had drawn knowledge, I was under the impression that from time to time I had thrown some light upon the matter under consideration. You will therefore, I hope, pardon me; and the profession I trust, understand my motives if I undertake to indicate a few of the points wherein I believe I have said something original.

Upon the first page is the following declaration: "I shall endeavour to show that *healthy* inflammatory action is a step—a first step—in the process of healing; that, while healing more expeditiously takes place when inflammation is absent, yet, under certain circumstances, the inflammatory process is necessary to prepare the way and to supply the means for successful healing. When, however, the inflammatory action is *unhealthy*, when there is presented some one of the several *varieties of inflammation*, then there is a *de facto* disease. The distinction between the two will be found to be the same as that which exists between a healthy ulcer and unhealthy one; in the former, healing kindly takes place in accordance with physiological laws, and in the latter it fails to take place." Whether I have succeeded in showing that such is the case, may be questioned, but if any writer has ever declared the same thing, I have been so unfortunate as never to see it.

Again, on this point, there appears on page 65: "There are two things which ought to be constantly borne in mind by the surgeon in the treatment of this disease (inflammation); the first of which is that in the inflammatory process itself, and at each step of the process, nature seems to be making efforts to cure, and that many of the phenomena of the disease are the results of those efforts. To this subject I beg leave to direct especial attention. Writers on surgery have been accustomed for so long a time to speak of the phenomena of inflammation, and indeed of all surgical affections as purely *symptoms of disease*, that it is next to impossible to disassociate the indications therefrom, and to regard them instead as exhibitions of the admirable workings of nature to stay disease, to remove the cause thereof, and to effect a cure."

But it is with respect to fibrin I wish to refer particularly. It was my privilege to teach that fibrin was not the pabulum of the tissues when such was regarded as heterodox. But in my work I have essayed to show, not alone that fibrin is not thus employed, but what its office in the economy really is. Others had distinctly shown that it could not be the nutritious juice. I made bold to say that it had another and a distinct duty in the physical economy. Upon page 30 will be found stated

"that the exact chemical constituents of the nutritious juice which transudes (through the coats of the capillaries) in health and which is taken up by the cellular structure, according to Virchow, and becomes tissue, has not been determined. The opinion long prevailed that fibrin constituted this material; but there are insurmountable difficulties in the way of continuing to regard it as so high a product. Rather must it be conceded that it bears evidence of being a material which is in the decline of life."

"Now may it not reasonably be supposed that the fibrin thus placed without the capillaries (that is, effused in inflammation) and unable to enter into the formation of tissues either on account of its own beginning metamorphosis, or the inability of the tissue to appropriate it or perhaps both, and having thus been turned aside from the high position for which it had been intended, assumes a new position in respect to its vitality and its capability of acting any part in the operations of life in the system. Although it has, on account of circumstances apart from its own development, failed in fulfiling its primary destiny, it constitutes a no less useful material; although it may not act a part in the ordinary repair of tissue, it serves a purpose quite as important and indispensable in effecting *extraordinary* repair. The elements of the blood which would, had not the natural functions been disturbed, have become tissue, deviate from this natural course of development and become the agent of the *healing process*. The nature of this change is not uncertain; there is not only a change but a degeneration direct from one stage of existence to another. It is a retrograde development. I will here simply venture the statement that the object for which fibrin exists in the blood is to heal, or effect extraordinary repairs. That it is a material limited in quality which "is kept in store for that purpose, and which is always found to increase rapidly in quantity, and become more efficient in quality, when a demand for it is made." Again on the 49th page "the tissues of the body are constantly exposed to the vicissitudes of life—to disease, and to accident—and nature would fail to maintain her reputation as a conservator, and as wise to provide all things necessary for life, did she not have in readiness an agent to meet the sudden requirements of disease, and of the various disturbances to which the tissues are constantly exposed. Herein, I would venture to assert, consists the importance of fibrin, This is the special object for which it exists; it is by this that the healing process is carried on."

Upon page 175, under the distinct heading, "*The Special Agent for Repair*," may be seen as follows: "It is the fibrin which performs this most important duty, second only in importance to nutrition and

growth. Whatever other purpose the fibrin may serve, this is the principal, seemingly, for which it exists, and it is a function sufficiently high, so that those who have been wont to regard fibrin as the pabulum of the tissues. have no reason to think that in losing that status it has sunk into insignificance. Can it be thought unlike the doings of nature to suppose that she specially prepares a material for *extraordinary* repair—for restoring parts more palpably destroyed? Judging from numerous facts and data in the possession of our profession, one does not hazard much in venturing the opinion that this is the principal, if not the sole, use to which this element of the blood is intended to be put.

"This view has forced itself upon my mind, and it is in accord with physiological facts. The fibrin is an element of the blood, which primarily was capable of entering into the process of nutrition; but not being required, it is left to undergo a change by which it is made to occupy a grade somewhat lower in the scale of vitality. We cannot suppose that the supply of food, and that part of the blood, which is the most highly vitalized, and intended for the nutrition of tissues, will always be just coequal to the demand; nor can we admit that the supply in health is ever *below* the requirements of the body. Consequently, we may reasonably suppose that there is often, or always, found in the blood of the body more material for nutrition than can be well made use of. The elements of the blood, like the tissues of the body, have their day of growth, development, maturity, decline, and death. When the tissue's food has reached its highest state of vitality, it is fitted to form a part of the most delicate organ in the frame. But should it not be required,—and we have seen that in all probability there is commonly more than the tissues do want, then degeneration sets in, and that portion will have passed the meridian of its life, and thenceforward cannot possibly take part in ordinary repair; but may, if required, take part in extraordinary repair—not, it is true, to be assimilated to the tissue, but to constitute a temporary structure—a scaffolding, whereby the permanent and the natural edifice shall be built.

"I would liken the fibrin to refuse timber, which can always be seen strewn about a building in the process of erection. It has been rejected not only because better were available, but because other and enough were more convenient. This material, thus declined, is regarded as a waste substance; and, in consequence of its being thus regarded, is subject to deterioration. Now, this timber, which has failed to form a part of the edifice for which it was prepared, may yet discharge an important duty, by being employed to construct a temporary stage, or scaffold, by which the permanent structure shall be completed. So the fibrin. Yes-

terday, under another form, it was perhaps qualified to enter into the formation of tissue. To-day, in the decline of life, it is no longer fit to accomplish so high a purpose—yet not so degenerated but it may answer a temporary use in the work of extraordinary repair.

"Several facts seem to support the view advanced; two particularly: first, the very small quantity of fibrin in the blood when the body is in a state of health; second, the well-known fact that the fibrin increases in a part as soon as the inflammatory process commences—that it is elaborated in excess immediately upon a pro-pect presenting itself of it being required to restore the part. And there are other facts which serve to corroborate the theory, which will become apparent as the healing process, in its several forms, is duly considered."

Now, if the foregoing has been previously taught, I was, and am, oblivious to the fact. The physiological facts upon which this theory is based had been of course discovered, but their application I must claim for myself.

Upon page 180, under "*Organization of the Fibrin*," it is taught that fibrin, upon the surface of a wound, while manifesting a certain amount of vital power, will fail to continue a living structure, unless blood-vessels had formed in it prior to coagulation, and the discoveries of Paget are pointed to where the vessels become elongated and saculated, as indications to form such vessels. Then it is elsewhere taught that by these vessels the cogulated fibrin is gradually removed as it dies particle by particle, and by these is substituted the natural structures.

The terms *ordinary* and *extraordinary* repairs of tissue, and the differences, although foreshowed by Paget, have not, as I am aware, been pointed out by him, or any other writer.

While fibrin is set up as the great *healer* of tissues, when palpably destroyed, the various modes by which it acts are mentioned. Thus speaking of the continued fluidity of fibrin when transuded in inflammation, I have said on page 53:—"The length of time which elapses before it (Liquor Sanguinus) thus separates into its component parts—serum and fibrim—varies; it may take place at once, or it may not for some length of time; or a portion of the fibrin may become solidified, while another portion remains in solution. In each event it is not difficult to observe an attempt to arrest disease, or restore to health. Perhaps further observation will enable us to say there is always an early tendency in a portion of it to stiffen around the small vessels, and thus, by *external* support, assist to prevent over-distension and paralysis; and fixing tissues, as it were, to secure a degree of *rest*, which will favour recovery."

"Coagulation is the last act of life in fibrin when separated from the body, and in the main it must be regarded the same when only without the blood-vessels; hence the unwillingness of nature, so to speak, to take a step by which the fibrin becomes in most respects a foreign body. While in solution, or only solidified in a limited quantity, it can readily be absorbed; but after coagulation, the process of absorption is necessarily slow. This property, therefore, possessed by inflammatory lymph, of remaining in solution for a longer time than natural fibrin does, is one of salutary importance, in so far as recovery is concerned."

Page 58 has the following statement:—"I wish here to refer particularly to the interesting and important fact, that in each tissue and organ of the body, such lymph is elaborated, in connection with the inflammation, as will best serve a curative purpose."

In speaking of the healing process; by pointing out the several modes whereby it is accomplished, and then the departure therefrom, and giving to such departures the new term *diseases of the healing process*, it is respectfully submitted that the whole subject is not only simplified, but placed on a new basis. Instead of each of the several ulcers being considered as an individual disease, it is presented as a disease of a natural process.

In discussing the question of duality of syphilitic poison, I have said on page 153: "Now, it is an important fact that syphilization rarely, if ever, follows as a result of the soft chancre, although it cannot be questioned that it is quite as much due to a specific disease as the hard is. From these facts it has been inferred that there are two kinds, at least, of syphilis; that one kind is characterised by a hard chancre, followed by constitutional symptoms, and the other kind by a soft chancre, which is not followed by further disease. But the correctness of these conclusions may certainly be questioned. There are three circumstances, as just above stated, which may control the changes, which took place in lymph subsequent to its effusion. We have seen that after the application of the poison, the inflammation may be either adhesive or suppurative. Now, it would seem that the poison so acts upon the part that the inflammatory lymph exhibits a decided tendency to congulate, and probably this is the natural effect of the poison in every case; but in certain cases, may it not be (and I offer it only as a plausible view,) that another controlling influence, adverse to the first, comes into operation, very likely arising from the state of the blood, by which lymph is made to degenerate into pus? The conclusion which I wish to draw from the above is, that the syphilitic poison is always the same; but its effects upon the system may be modified by the state the system is in at the time the poison is brought in

contact with the body. *That it naturally causes adhesive inflammation, but under certain circumstances as this tendency is counteracted, that when it acts alone, and causes the hard chancre, inoculation is the result, but when from any other cause the soft chancre is produced, the poison is ejected and no syphilization ensues.* When, therefore, a Hunterian chancre is met with, it cannot be inferred that the constitution is already affected, and the hard sore is the effect of constitutional disease; but that there is imminent danger of such constitutional affection—that the poison is being held in the most suitable state to secure syphilization."

"In connection with this question, it requires to be mentioned that swelling of the glands of the groin, and the formation of buboes, is more generally an attendant of the soft chancre than those of the hard. This fact, although at first it may seem to oppose the view advanced, in reality supports it. It is not at all irrational to suppose that, although venereal poison is mainly expelled by the suppurating sore, yet the lymphatic glands may be called upon to stay the entrance of a very limited portion, a duty which they faithfully perform, even at the expense of their own integrity. The poisonous material even here causes inflammation, followed by suppuration, and so the pus and the poison escape together, while on the contrary, in the case of the hard chancre, the syphilitic poison has only the effect of causing induration of the glands, and thereby incapacitating them for their natural duty, so that the system becomes contaminated. To repeat: in the case of the soft chancre, the most of the syphilitic poison is cast out by the suppurating sore, and what little may be taken up by the absorbents is arrested at the first system of glands; consequently these glands take on a similar suppurative action, whereby is disposed of that limited portion which had so far obtained an entrance to the general system."

Whether the foregoing reasoning is correct or incorrect it, at least is my own.

In considering the diseases of the bones, I think that I have pursued a plan not previously taken by writers. Especially in caries I feel there is to be found much original thought. Also in the pathology and treatment of fractures, I am certain of having taught, what I had no where else seen. Respecting the treatment of fractures, I must maintain that in the principles ably laid down by Hamilton, and received by all surgeons, I had taught them in the class room before I ever knew of such a person as Hamilton.

In conclusion, allow me to give the opinion of the gentleman who did me the favour to read the proof-sheets. Dr. Moffatt, physician-in-chief to one of the hospitals at New York, says, in a note to the publishers:

"I cannot forego the pleasure of bearing testimony to the excellence of the book, which is in many respects superior to any yet published on this side of the water. Some of the views advanced in reference to the processes involved in inflammation, as well as the reasoning based upon them, have the merit of originality. Whatever else may be said of them, it cannot be denied that they are very ingenious. The careful reader cannot fail to be impressed with the conviction that the author of the work is a profound student and a close observer. His love of the subject, as evinced in the enthusiasm which glows on almost every page, gives promise that in succeeding editions he will supply what is wanting, and thus render year by year the work more and more complete and valuable."

But I fear I have encroached too much upon your space. I must say that I felt a great unwillingness to thus obtrude my own work upon your attention. I trust, however, that the reasons given above will be deemed sufficient. I repeat I do not complain of your notice of my work, for it is written in the kindest spirit, and has bestowed no little credit. I only desire to indicate, what was no doubt an oversight, wherein there is, according to my own knowledge of surgical writers, to be found something original. W. C.

Belleville, 26th November, 1866.

REVIEWS AND NOTICES OF BOOKS.

Orthopedics: A Systematic Treatise upon the Prevention and Correction of Deformities. By DAVID PRINCE, M.D., 8vo. pp. 240, Philadelphia: Lindsay and Blakiston, 1866.

(Continued from page 201.)

The author discusses in the third section of the work the pathology and treatment of articular diseases. The forty-four pages devoted to the subject might have sufficed for a thoroughly competent pen to give a brief and comprehensive digest of this very interesting topic. But the author is obviously not at home in this matter, and has certainly failed to redeem his pledge (perforce) to render "the advance in knowledge on this subject, gained within the last twenty years, accessible to the mass of the profession." In fact, this section is made up of quotations from Barwell's treatise "On the Joints," in the style of Braithwaite's Retrospect, with a few insignificant comments. This is certainly a very commodious way of book-writing, though of questionable literary value, and

hardly commendable for imitation. However, our author is of but modest pretensions, and a comparative novice in the arena of science; we must, therefore, look with leniency upon his first literary effort. Nevertheless, we believe that a candid and well sustained criticism is not only compatible with kind intentions, but even preferable to the sloppy and stereotyped literary notices in which some journals indulge, and which they keep on hand for the most contemptible products of the pen.

We are not surprised to find the author kneeling at the shrine of that pathological chameleon, otherwise known by the appellation of strumous disease. Neither he, nor his fountain-head, show any disposition to define that malady, or furnish reliable anatomical details for differential diagnosis. They simply take it for granted that there is such a disease old enough to be known and understood by every reader of their respective works. We must forego the pleasure of discussing this point at length. In order to let the author know that the question of the existence of strumous disease is not as yet settled beyond dispute, we beg to remark that no less an authority than Virchow denies it *in toto;* the modern ophthalmologists have expelled scrofulosis from their precinct; and Louis Bauer has disputed the strumous congestion of joint diseases. The author may not choose to accept of their opinions, but then he should say so, and disprove their arguments and clinical facts. To ignore them may be convenient, but it exposes the author to the charge of ignorance or temerity in grappling with them. Withal it seems that Dr. Prince has not a very serious apprehension of that *deus ex machina*, when he pronounces (page 49) the indications for treatment very similar with those inflammatory diseases that arise from wounds and injuries of the joints. And, indeed, the treatment adopted by the author, and commended to the reader, precludes the supposition of constitutional causation at all.

The pathological details do not invite close analysis, for they are but fragmentary and ill-digested. Thus, for instance, he favours the opinion that the synovial membrane is the most susceptible structure of the articular components, notwithstanding that they are deprived of nerves and vessels; and to the bones, and especially to the epiphyses, though so richly endowed with them, he allowed, as it were, a back seat. The description of strumous synovitis borrowed from Barwell is so general as to apply to any joint disease, traumatic or constitutional. Next it is self-evident that violence must expend its force much more upon the bones than upon a yielding membrane protected by integuments and fat. However, we cannot bring to bear upon the author's views a more

elaborate criticism, space prohibiting, and must defer doing so to another occasion.

About the treatment of this class of diseases we have to say but little. The author has certainly and most diligently compiled nearly all that is known, without being complete or in every respect comprehensive. Nevertheless, we feel grateful for many historical notes.

Like other good surgeons, the author insists upon absolute rest of an affected joint, omitting, however, to indicate the proper means to achieve it. In the beginning of these diseases rest alone is sufficient to prevent the advance. He deems recumbent posture and extension the best. Neither insures rest. The former removes the weight from the joint; the latter elongates the muscles, and prevents spasms and contractions. With both the patient can move the joint. The simplest and cheapest way to procure rest in a certain position is a firm bandage around the joint, extending to the next articulation, and thoroughly impregnated with dextrine, plaster of Paris, or silicate of potash, the last being in favour with the school of Vienna. In some joints splints of leather and sheet iron may be substituted. In incipient hip-disease, the "wire breeches," introduced by Louis Bauer, secure complete rest, and proper position of the affected extremity. These important improvements in modern surgery, Dr. Prince has partly underrated, partly ignored. Extension is to be resorted to when spastic oscillation commences; but the ordinary method of applying it by means of adhesive strips, pulleys, and weights, is certainly inefficient, because it enables the patient to accommodate himself to the traction. We have to avail ourselves of a fixed point. The perineal strap does not answer the purpose. One apparatus, which keeps the pelvis in a steady positition, is the mode indispensable when the muscles have already commenced to retract; and the author would certainly have insisted upon its use, had he acquired an extensive experience in the treatment of this class of diseases. We must take issue with the author on the efficacy of extension in muscular contractions. In a few cases of forcible, a persistent gradual extension may suffice to overcome the organic resistence of contracted muscles, but it mostly fails. Experience has decided this fact. The division of the resting structures becomes then indispensable. The author has utterly failed to appreciate the therapeutical action of myotomy and tenotomy. They not only annihilate resistance, and thus facilitate a proper position of the joint, but they act as a powerful antiphlogistic, contributing more to the arrest of the disease than the balance of remedies in vogue. We have practised both extension and division long enough to have an opinion on the relative efficacy of either.

A great advancement was wought by the introduction of portative extension inasmuch as it enables the patient to enjoy the desirable open air exercises. And Dr. Davis is entitled to the full share of credit for this improvement. There remains, however, a vast field for mechanical perfection of those portative apparatus heretofore in use. When Davis's splint became known, the profession was in ecstasy, and indeed it has a conditional value. Experience has however decided that it cannot cope with aggravated cases of hip diseases, cannot render dispensable the use of the knife, nor prevent the progress of the disease. The same objections apply to Sayre's, Barwell's, or Vedder's respective splints. Dr. Andrew's pelvic crutch is evidently an improvement in the right direction. We are truly glad to have seen it. Sayre has lately published the like apparatus for the knee, and ankle joints. They are both ingenious and effective, and should have found a place among the numerous illustrations of less value in this work.

In effusions of the joints, the author thinks that the use of the trochar would do no harm. We think it will, unless the joint is properly prepared for the puncture, or such movements are made with the joint as to favor the exit of the liquid, and prevent the entrance of air. Barwell has informed the author to whom surgery is indebted for this operation, but the author thinks so little of it as to mention it merely in passing.

The author is still inclined to favour counter-irritation, and doubts that remedies of which our professional ancestors thought so much, should have become entirely worthless to the present generation. The same logic applies to indiscriminate bleeding, and yet it has been almost entirely abandoned for very relevant reasons. Dr. Prince may tell a nice little story of a boy who submitted to the hot iron, under the promise of being taken to the theatre, but it proves very little to the point. Counter-irritation has been indeed thoroughly tried and assuredly too much so for the good of the respective patients. But having disappointed the expectations of both surgeon and patient, and rather aggravated the suffering of the latter, it has been given up by the wiser portion of the profession. We have seen cases in which the fly-blister instantaneously produced spastic contraction, in diseases of the knee and elbow joints. The author may not have had the same opportunities, but then he is disqualified for counselling others on this point.

On page 58, the author commends the bold and free incisions of the late Dr. E. S. Cooper "to give free outlet to the offending fluid in violent inflammations," and on page 61, he is inclined to the advice of South who "thinks it preferable not to meddle with abscesses of the hip joint!" Every sound surgeon will follow the contrary maxim. That is to say, he

may be forced to relieve an inflamed joint of its effused material by puncture, but articular abscesses by free incisions, for reasons which require no further proof.

The 4th division on lateral curvature of the spine, is so flippantly compiled as to be rendered useless in every particular. The subject is yet, involved in some obscurity, but Dr. Prince renders it still more obscure. Lorinser of Vienna is the only author who ascribes lateral curvature to morbid changes of the spine, and its ligamentous apparatus; whereas the greatest pathologists, including Rokitansky, emphatically deny it, nor is the opinion of Lorinser borne out by facts. Yet our author enumerates under II, as one of the common causes, and links it with violence to the spine in general. The case by which he attempts to substantiate his opinion on page 125, is certainly a most singular one. His patient, a lad of 15 years, fell from a house, three years previously, striking upon his head and was nearly helpless for a few days after. "This is the only known cause" of the deformity that occupied the superior half of the spine. The author informs us that after ten days' use of his apparatus delineated on page 107, "the patient had increased half an inch," after two months 1 $\frac{1}{8}$ inch; and after five months 1$\frac{1}{2}$ inch; and he thinks he might have gained still more if he had kept the patient in the horizontal posture. A competent reader might feel inclined to take the whole, as an opportune story and might apply the remark of Solly; that but "knaves and ignoramuses" could assert the straightening of a curved spine tantamount with the increase of height; but we do not choose to deal so uncharitably with Dr. Prince as to question his veracity, though we cannot save his diagnosis of "softening of the spine." The only commentary we have to offer is, that the patient, in consequence of the violence sustained, suffered from local paralysis of the muscles concerned in the deformity, and that the doctor succeeded in re-establishing the proper innervation, for his apparatus is too ineffective to bring about the claimed result.

Under II. Dr. Prince enumerates spasmodic contraction of dorsal muscles as another of the causes of lateral curvature. This opinion has been started by Jules Guein, but Malgaigne, has so thoroughly exploded it as utterly groundless, that we are rather surprised to find the author still possessed of it. It is well known, and should not have escaped his notice, that the former extensively practised myotomy upon the supposed contracted dorsal muscles, and had the coolness to promise to the French Academy of Sciences ocular demonstrations by his patients he pretended to have restored to their normal form and height; but unfortunately his patients, on examination by a committee, proved the very contrary. In the treatment of this deformity, he reproduces the accepted opinions and

sustains them by respectable authority. He illustrates quite a number of spinal braces, of which his own seems to be the most useless of all. Mr. Broadhurst's lever apparatus, certainly one of the best in existence, has found no place in the work.

The next article on Pott's disease, is evidently compiled with diligence. The deficiency of the author in practical experience is however noticeable. Under the causes enumerated we find constitutional trouble very preeminent, whereas injuries with their direct and remote effects are slighted. The author seems not to be aware that in many instances fractures of vertebral bodies initiate this deformity. That fractures occur much more frequently in this connection than seems to be generally supposed, has been proven by the experiments of Bonnet, by pathological examinations, and by clinical cases. We miss, likewise, whooping cough and syphilis, as casual causation of posterior curvature; last, and least, softening of the intervertebral cartilages and periostitis of the spine come in for their share.

Generally we accept the treatment of Dr. Prince, as well sustained with the exception of a few propositions. Medication is rarely needed in these cases, and least of all should we feel inclined to purge the patients once a week. Next we deem counter-irritants not only dispensable, but absolutely objectionable. Lastly, we look with the eye of Mr. Solly upon Dr. Taylor's plan of straightening the curved spine by braces, acting like a lever upon the superincumbent portion. Anybody at all acquainted with the pathological condition of Pott's disease must pronounce suggestions of this kind as reprehensible folly. The efficacy of mechanical appliances in the cases, is altogether questionable. As long as the part of the spine is softened, disintegrated, and physically unfit to sustain the superincumbent weight, the patient is better left upon a water bed, and in the horizontal position; and when the disease has terminated, the affected bones have regained their firmness, and perhaps been strengthened by newly formed bone splints (osteophytes), then the patient is actually recovered, may leave his bed, resume the erect posture, and needs no mechanical support whatever. The cuirass of Bonnet, and the dorsal splint of Bauer may be useful in protecting the patient from jarring the spine whilst he is carried, or drawn about in the open air, but nothing more is wanted in the line of appliances.

Passing over some rather indifferent topics, as corns, bunions, absence of toes, etc., we proceed now to the subject of talipes. An attentive reader cannot fail to notice that Dr. Prince has given to this subject thought and diligence; and that portion of his treatise which considers the deformity of the feet, is without a doubt, the best portion of the

work. We would have little to say to mar our approval and commendation, had the Doctor relied on his own judgment and experience; but inasmuch as he has chosen to become the special pleader of Mr. Barwell in this as in another divisions of the treatise, we feel impelled to give him the benfit of our disagreement.

Dr. Prince discriminates six varieties of talipes, viz: tal. equinus, dorsalis, varus, valgus, plantaris, and calcaneus, with their respective intermediate combinations. Why the species of tal. plantaris should have been set up as a new form is not intelligible, since the author by his own illustration gives it as a minor grade of tal. valgus, to which species it therefore belongs. What he pleases to define as tal. dorsalis has very properly been termed tal. plantaris by others (Bauer), because the abnormal arching is the result and not the cause, which latter rests undeniably with the shortened plantar, aponuerosis and muscles.

To Barwell the author pays the unmerited compliment of a better anatomical understanding of talipes, unless he justifies it by the new name for the intertarsal articulation which the former has originated.

Although Dr. Prince attempts a wide range for the etiology of talipes, he nevertheless settles quietly down upon "permanent spasm and paralysis" as the usual cause of these malpositions. The physiological character of permanent spasm is somewhat problematical. We cannot understand a tonic spasm of years' duration, because the muscle loses its contractile anatomical elements and is almost entirely converted into a cord. If the definition of contraction given by Barwell has any meaning at all it applies precisely to such a condition. But it evidently did not suit the author to dispense with spasm, which, as a special pleader for elastic extension, he needed as an indispensable premise.

We need not state that the author, being in favour of extension, is a strong opponent of tenotomy in the treatment of talipes, and he therefore fortifies his position by all the arguments that have been raised against it. Among others the Doctor is very apprehensive that the divided tendons will not re-unite, and that the muscles will lose their function commensurate to the intermediate scar-tissue, if such should be formed at all. An extensive experience on this subject entitles us to a vote. Now while we do not want to question the credibility of the statistics adduced on page 1767, we can say this much of our experience that we have had but one case of non-union of a tendon in our practice. Perhaps the after-treatment which we observe by keeping for some time the fragments of the divided tendon in close approximation by an appropriate dressing, may have something to do with our results. Thus far we at least have no reason to oppose tonotomy. Next we do not see how

the author can overcome the resistance of contused muscles by gentle, however persistent, traction by means of elastic webbing. Out of five cases of varus four cannot be reduced by the most powerful hand, and division of the resisting structure seems to be imperative. Moreover such powerful extension or elongation of the latter is by no means without danger as we have shown in another place. It is evident that difficulties which cannot be reduced by the hand of a powerful man are not likely amenable to minor remedies. Yet on page 184 the author thinks that "in cases of obstinate resistance to reduction by extension ' force may be legitimate. To what extent the author wants us to apply force may be inferred from his own statement which we quote. "The most tense ligamentous fibres and the investment of the muscular fibres in shortened muscles are torn." In other words, the author likewise adopts division merely by a different process. Whether this is preferable to a harmless division by the knife, experience alone can determine. It seems a folly to commit one's self to any plan unconditionally. There are cases of talipes in which the knife has to be employed, and there are others in which extension may have been advantageously resorted to; and we concede with pleasure the author's merits in prominently urging the method of extension.

We close herewith our criticism without having exhausted all our strictures on the views and statements of the author that might have been submitted without fastidiousness. On the other hand the author has handled the subject of his treatise with some ability and literary tact. His language is fluent and rather agreeable when not spoiled by quotations. We hope that this book will find a ready sale, and thus enable the author in his second edition to correct the errors into which he has been led by implicit faith in some authorities more plausible than correct. We beg to express the hope that the author as well as the reader will accept the interpretation of our purpose to serve science, and its progress.

A Manual of Medical Jurisprudence. By ALFRED SWAINE TAYLOR, M.D., Fellow of the Royal College of Physicians, and Professor of Medical Jurisprudence and Chemistry in Guy's Hospital. Sixth American from the 8th and revised London edition, with Notes and References to American decisions. By Clement B. Penrose, of the Philadelphia Bar. 8vo. pp. 776. Philadelphia: Henry C. Lea. 1866.

This work has for years held the place of being the standard authority on the subject of Medical Jurisprudence. Dr. Taylor has recently published a large work entitled, "The Principles and Practice of Medi-

cal Jurisprudence. In this, the eighth edition of his Manual, considerable alterations have been made. These consist in the omission of the full details of cases, a synopsis only being given, sufficient, however, to be of practical utility to students of medicine and law; while the more elaborate work above alluded to can be consulted and cited in courts of justice. There are two chapters on medico-legal evidence and the duties and responsibilities of medical witnesses. These are of great use, as affording information and guidance to medical practitioners, who are too often subjected to unnecessary cross-examination by counsel. These chapters are deserving of special and earnest study. They are clear, concise, and give a fair and defined idea of the rights and privileges of a medical witness. The author has introduced into this edition of his Manual numerous wood-cuts, illustrating the crystalline form of poisons under microscopic observation, and also the apparatus used for their detection. The subject of wounds and personal injuries is a most important section, interesting and valuable. In this section will be found a brief notice of spectral analysis as applied for the detection of blood-stains. In this, the American edition, the editor has thought it advisable to restore some portions of the matter omitted by the author; he has also introduced some material from the Principles and Practice of Medical Jurisprudence, thus rendering the volume more complete, and affording an opportunity of reference on certain points, to those to whom the larger work is not accessible. These additions are in the articles on noxious animal food, trichiniasis, sexual malformations, insanity as affecting civil responsibility, suicidal mania and suicide, and life assurance. The notes of the former editor, Dr. Hartshorne, have been retained, and there will be found several decisions by American courts of law which add increased value to the work. The typography is excellent and the paper superior, the publishers having done their part most creditably.

An Introduction to Practical Chemistry, including Analysis. By JOHN E. BOWMAN, F.C.S., late Professor of Practical Chemistry in King's College, London. Edited by Charles L. Bloxam, F.C.S., &c., &c., with one hundred and seven illustrations. Fourth American, from the fifth revised London edition. 8vo. pp. 351. Philadelphia: Henry C. Lea. 1866.

This little book is what its title declares, a hand-book of Practical Chemistry. It is a work intended simply for use in the laboratory, hence it will be found that all theoretical explanations have been excluded.

The editor has thought proper to omit all symbols and equivalents, with a view of inducing the student to work out the equations for himself, and not rest satisfied by finding them on the page before him; also, because of the limited space which he has allotted himself, which would, in many cases, prevent the explanation being thoroughly given. The article on the mouth blow-pipe has been carefully re-written. There will likewise be found a systematic course for examining unknown substances with the aid of the blow-pipe. In the appendix will be found tables to serve as a guide for the rapid analysis of simple substances. This little work is an admirable companion for those desirous of following a course of Practical Chemistry. It is illustrated throughout with wood engravings.

PERISCOPIC DEPARTMENT.

Surgery.

CASE OF A LARGE CYST IN THE NECK, WHICH OPENED INTO THE PHARYNX.

By William S. Savory, F.R.S., Assistant-Surgeon to St. Bartholomew's Hospital.

On the 2nd of last March, I saw, with Mr. Pettifer and Dr. Savory, a tall, slim man, with light hair and sandy whiskers, sixty-two years of age. A large tumour occupied the whole of the right side of the neck. It extended from the mastoid process above to the sternum below. It passed back into the posterior triangle, and forward across the mesial line, pushing the larynx and trachea far over to the left. It was not very tense, and resisted pressure unequally in different parts. About its central portion, which was most prominent, it was soft and fluctuated, and there percussion elicited tympanic resonance, so that it obviously contained air. The cavity of the tumour did not seem to be far from the surface; but it was clear that it extended very deeply into the neck. It moved with the larynx, as in swallowing, and when grasped by the hand, could be drawn to and fro.

The patient told us that it had existed for many years—for more than thirty at least. It was first noticed by his wife, whose attention one day was attracted by the swelling in the neck. Its origin was therefore obscure. There was nothing to show that it had arisen either in connexion with any special natural structure, or upon any previously existing abnormal one. Lately it had increased rather rapidly, and embar-

rassed the respiration. He told us that it had been tapped many years ago, and some fluid let out. About a week before I saw him a considerable quantity of abominably fetid puriform matter passed into his pharynx and mouth, which he said almost choked him, and after this discharge the tumour became unusually flaccid. But in a short time it seemed to refill, and again and again a profuse discharge of frothy, fetid, puriform matter recurred. For the last day or two he had been frequently hawking up this stinking matter, which poisoned the whole room. His breath, too, was intensely fetid. He could only lie on the right side.

He had been very deaf for many years, but was an intelligent man, and gave a very clear account of the case. Until lately his general health had been good, and he cared little for the tumour until it began to embarrass his breathing: but since the fetid discharge his strength and spirits had given way, and he then felt very ill, and began to despair. In fact, at this time his health was not only being rapidly destroyed by the poisonous discharge, but his life was directly threatened by the sudden way in which, from time to time, it escaped into the fauces.

The tumour was undoubtedly one of those large, simple, watery cysts which have been called hygromata or hydroceles of the neck. It had evidently opened into the throat, probably into some part of the pharynx, perhaps into the side of that cavity, just above the glottis. It could hardly have communicated directly with the windpipe, because, although when his mouth was suddenly filled there was much distress and a sense of choking, yet the symptoms were not so urgent as they must have been had the matter passed directly into the larynx or trachea; and moreover the matter was spat out without much cough or evidence of expectoration. At this time he could not bear the introduction of the laryngoscope.

We all agreed, however, that something must be done to relieve him, and that the case admitted of no delay. Removal of the cyst by dissection was out of the question, and even had it been practicable such an extensive operation would not have been, in my opinion, justifiable, because it appeared to us that a very fair prospect of success was offered by a much simpler measure. I proposed first to puncture the tumour, to be quite sure of its nature, and then to lay its cavity freely open by a simple incision. In this way the discharge would escape through the wound instead of into the pharynx, and thus the most urgent and distressing symptoms would be at once relieved, and then there was every chance that the cyst would gradually contract and disappear.

So on the 6th of March the cyst was laid open. Our patient had lost ground considerably since we had last met—poisoned, I suppose, by the

fetid fluid which formed in and escaped from the sac. I cannot describe the horrid stench which at this time accompanied the now almost constant hawking-up of the matter. He had spat up much blood too, as well as pus; sometimes as much as a quarter of a pint at once, of the two mixed in about equal proportions, and then the tumour, though in some parts only, for a short time seemed shrunken. This suggested the possibility that the cyst might be multilocular.

I first punctured the cyst with a grooved needle where the wall seemed thinnest and it was most resonant—that was in its most prominent portion near the centre; but only some dark, tenacious, evidently stale blood escaped. Then I made a cut, an inch and a half long, over the spot, and dissected down cautiously to the cyst. It lay at some distance from the surface: not only the platysma, but also the sterno-mastoid, was spread over it. The sac being exposed, I punctured it with the knife, and immediately black grumous blood and air flowed out. The aperture was enlarged, and gave vent to a considerable quantity of stinking black blood. The odour was almost intolerable. I introduced my finger into the cavity, and found it to be very extensive and irregular. It occupied nearly the whole of that side of the neck, reaching upwards and backwards to the mastoid process, downwards to the sternum, and forwards, across the neck, to the larynx and trachea. Far on the opposite side at one spot in front and above I felt what I fancied was the aperture which communicated with the pharynx. Much more rotten blood and pus were turned out, and then, separating the edges of the wound, which was enlarged upwards and downwards for another inch, we obtained a fair view of the interior of the sac, which was gently wiped out with small sponges. On the opposite wall, portions of a dark slate-coloured and shrunken membrane appeared. This was cautiously drawn forward with a pair of forceps, and recognised as a dead and putrid portion of the cyst. Only a part of this could be drawn out by very gentle traction—for, doubtful of the structures to which it might be attached, we avoided all violence,—and this was cut off. When the cavity was cleansed, nothing more could be detected than the remains of the cyst-wall. One or two arteries bled freely in the tissues in front of the cyst, but they were readily secured. Some strips of dry lint were introduced into the cavity, and the patient—who had sat in a chair, and borne the operation, without chloroform, with remarkable equanimity, becoming, however, rather faint once for a moment—walked back to bed, and lay on the right side with the aperture dependent. It was observed that after the operation the trachea and larynx returned at once almost to the mesial line,

All went on well without any interruption. He felt instant relief from the diversion of the course of the discharge, and rallied rapidly. The horribly offensive odour quickly diminished, and was further restrained by the use of Condy's fluid, with which the lint was saturated before it was introduced. The rest of the dead cyst-wall came away in two or three large pieces. The discharge gradually became odourless pus. The cyst contracted, and at length (a month after the operation) closed, leaving only a linear scar with a very limited amount of thickening about it, which could be covered by a florin. He is now quite active, and his health is excellent. Nothing abnormal can be discovered by an examination with the laryngoscope.

This case is remarkable, not only for the great size which the cyst attained and the consequent displacement which it effected of the trachea and larynx and other adjacent structures, but most of all for the communication which had been established between the cavity of the cyst and that of the pharynx. So far as the cyst itself only was concerned, and had the patient's life not been threatened by suffocation or poisoning, this would probably have led in time to a natural cure. It was certainly a strong hint and encouragement to make a counter opening in the manner described. For while by this means there was every prospect of averting immediate danger, there seemed, considering the changes which the interior of the sac had already undergone, little or no risk of producing either local or constitutional disturbance by the operation; on the contrary, there was the best chance of reducing both.

These cysts in the neck have occasionally given way spontaneously. Thus Mr. Phillips* has related a case in which "a small crack took place in the covering of the tumour, and above three pints of a reddish serous fluid escaped." This was followed by a sero-purulent discharge for many weeks; but "a small fistulous communication with the sac remained." A case is also related by Wernher,† in which a congenital multilocular cyst opened externally by several apertures, and, gradually contracting, was at length obliterated.

But among recorded cases, I can find only one which opened in a similar manner to this. Fortunately, the specimen is preserved in the museum of St. Bartholomew's Hospital. It is thus described:—

"A larynx, pharynx, and adjacent parts, with the thyroid gland. The right lobe of the gland is enlarged by the formation of a cyst, of more than four inches in diameter, in its interior. The walls of this cyst

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* Medico-Chirurgical Transactions, vol. xxv.

† Die Angeboremen Cysten-Hygrome. Giessen, 1843.

appear to be formed by the distended tissue of the gland; its interior is rough, and has a large quantity of lymph deposited upon it, some of which hangs in it in loose shreds. At its upper part, the cavity of the cyst communicates with that of the pharynx by a narrow ulcerated aperture (indicated by a piece of glass) near the arytenoid cartilage. The isthmus and left lobe of the gland are healthy.

"The patient was an elderly woman, and the enlargement of the gland had long existed. The cyst at first contained a fluid like serum, which, when withdrawn, spontaneously coagulated. After being twice emptied, the walls of the cyst inflamed, and it was rapidly filled with pus and lymph; its wall ulcerated, and the ulceration extending through the adjacent part of the pharynx, the patient was suffocated by the sudden discharge of its contents, and the passage of some of them into the larynx."

It is probable, from the reasons already given, that the cyst in my case opened somewhere about the same spot. Such an occurrence must be very rare.—*Lancet.*

Brook-street, Nov., 1866.

REMARKS ON THE USE OF THE ENDOSCOPE.

By Henry Dick, B.A., M.D., Surgeon of the National Orthopædic Hospital.

There are some remarks in *The Lancet* of October 20th on the use of the endoscope, by Henry Thompson, which left an impression on my mind, and very likely affected others similarly, that Mr. Thompson is not an admirer of the endoscope, nor very sanguine as to its future usefulness. I can pretty well understand the uncertainty which Mr. Thompson seems to feel on the subject, because I myself gradually passed through the same state of mind.

About fourteen years ago, I began to work with the endoscope, and I had several conversations on the subject with the late Mr. Avery. With M. Desormeaux's instrument I did not succeed at first, because I used spirit of wine instead of gazogene. When I used gazogene the light was better. At the same time I found another inconvenience in the great pain which was produced in the urethra by the sharp borders of the tube, but when I used blunter tubes that inconvenience was obviated.

The results of my endoscopic researches nevertheless were not always satisfactory. Sometimes I could very well distinguish the colour of the urethra, and diagnos its condition, but at other times I could not get a good light at the desired spot, except by moving the instrument in different directions; and after many trials I came to the conclusion, that the essential thing for success in endoscopic researches is to get the rays of light well reflected on the spot we are desirous to examine. I there-

fore prefer Dr. Cruise's instrument to Desormeaux's, not only because the light is more brilliant, but because by his ingenious contrivance we can either raise or depress the tube, or give it a lateral direction. If we succeed in getting the light on the proper spot—even the light of an ordinary sperm candle is sufficient—a distinct view of the object will be obtained by means of the endoscope. A precaution I think it necessary to take is to have the endoscope placed on a stand, the height of which should be capable of alteration, as the involuntary motion of the hand renders the light uncertain. In fact, there are many precautions which it is necessary to observe, the omission of any one of which, though apparently of little moment, is quite sufficient to frustrate the desired result. Amongst them I found it desirable to have tubes constructed, with their side-openings capable of being closed, so that, when required, all the light can be concentrated on one spot, without any loss of light through the side-openings.

I quite coincide with Mr. Thompson's remark about *chronic inflammation* in the bulbous portion of the urethra. That affection was known long before the endoscope was in use; but we were in the dark as to the *extent* of that inflammation. Besides it is not only the bulbous portion of the urethra which can be affected by chronic inflammation, but also the fossa navicularis can be so affected; and in three cases I found chronic inflammation two inches and a half down the urethra, and which I was only able exactly to diagnose with the aid of the endoscope. The touch alone is not sufficient for the diagnosis, because some parts of the urethra may be very sensitive when no chronic inflammation exists; and I have found, in *old cases* of chronic inflammation. pain in sounding is either absent or very trifling.

The term "granular inflammation" of the urethra does not seem to me one which we ought to accept; my reason for which I have stated in the preface and notes in the second edition of my monograph "On Gleet."

The orifice of a stricture can certainly be seen by the endoscope. It presents itself to the observing eye as a very small black spot; and may be overlooked by a *tyro*, or not found at all, because the end of the tube is directed towards the walls of the urethra. To be successful, we must by a little manœuvring bring the opening of the stricture into the centre of the tube, as we have sometimes to do with the speculum in order to get a good sight of the opening of the os uteri.

I consider the endoscope a very useful instrument in impassable strictures. In a case of Civiale's, where no instrument could be passed, Desormeaux with the help of the endoscope succeeded. That the orifices

of the ejaculatory ducts cannot be seen is to be ascribed to their anatomical position. If we could expand the tube at that particular spot, and dilate that portion of the urethra, I have no doubt the ducts could be seen; but I fear the sudden dilatation of that particular spot would produce orchitis.

In all diseases of the bladder, the future of the endoscope is bright, and I am in great hope that the mysterious sac called the "*irritable bladder*," into which so many affections of the bladder have been thrown, and still is thrown, will be well lit up by the endoscope, to the great benefit of humanity and science.

There is not the least doubt that a foreign body can be seen in the bladder by the endoscope. Dr. Cruise has proved it in the presence of witnesses, and Desormeaux further actually gives exact drawings of stones in the bladder, as seen through the endoscope. The "*tactus eruditus*" of Mr. Thompson is certainly necessary, but the *oculorum acies* is still better in the diagnosis of disease. In fact, it is my conviction that the endoscope will be more useful in disease of the bladder than in that of the urethra, because a larger space for observation comes under the range of the instrument, and sooner or later lenses will be constructed to improve its practice and extend its usefulness.

Mr. Thompson's opinion about treating strictures by flexible bougies is very valuable, coming from such an authority; but it does not agree with my own experience, as I have found the metallic bougie more serviceable. But my own experience would be of little weight if it could not be proved that the pathological anatomy of stricture of the urethra shows conclusively that the metallic bougie is the one indicated.

Lest I should be misunderstood, I should state that for passing a difficult stricture I prefer the finest and most flexible bougie; but for *treatment* I adhere to my above-mentioned opinion.

The presence of the tube of the endoscope cannot be more irritating than the sound; indeed I have always found it much less so, because the tube only penetrates a short distance into the bladder, and does not come in contact with its walls when in its injected state.

Mr. Thompson is mistaken when he says that we cannot make use of the endoscope in operating in the urethra. Desormeaux cuts strictures with the help of the endoscope, and I have removed a small polypus through its instrumentality; and in cases where only a very small portion of the urethra is affected by chronic inflammation I cauterize by its assistance.

But the last remark of Mr. Thompson about the use of the endoscope in disease of the rectum is very encouraging, and I am sanguine that the

time will come when he will discover its equal usefulness in diseases of the bladder and urethra; because it cannot be logically admitted that if the endoscope can reveal a deep seated affection of the rectum, it should not render equally valuable services in diseases of the urethra and bladder.—*Lancet.*

ON A CASE OF LATENT PLEURISY; EMPYEMA; PARACENTESIS THORACIS; INTRODUCTION OF A DRAINAGE-TUBE.

By Andrew Dunlop, M.D., Resident Clinical Assistant, Consumption Hospital, Brompton.

As the employment of the drainage-tube in the treatment of empyema is not much resorted to in this country, the following case, which was under the care of Dr. Hamilton Roe (who has kindly permitted its publication) may be found interesting. To the kindness of my predecessor, Dr. Powell, I am indebted for notes of the case during the first two months and a half that it was in the hospital.

J. S——, aged twenty-four, was admitted into the Consumption Hospital on Jan. 29th, 1866. He had enjoyed excellent health until December, 1864, when his illness commenced with pain in the right side, and cough. On admission, his symptoms were, cough, dyspnœa on mounting a stair or on walking more quickly than usual, and general weakness. On examining his chest, it was found that the right side bulged laterally, and that it was almost motionless, while its circumference was 20½ inches that of the left being 18 inches. Vocal fremitus was absent all over the right side except at the apex, and there was intercostal fluctuation. There was absolute dulness on percussion all over this side, anteriorly and posteriorly, extending, in front, slightly beyond the right border of the sternum. The respiration was distant all over the right side anteriorly and posteriorly, and the vocal resonance was diminished, though not markedly so. On the left side there was supplementary respiration, and the percussion note was good. The apex of the heart was beating in the seventh left interspace, about three inches outside the line of the nipple. The impulse was diffused, and at the apex there was a soft, blowing murmur.

As the effusion was so great, and, so far as could be ascertained, of such long standing, Dr. Roe considered that paracentesis was necessary, and on Feb. 9th the operation was performed by Sir William Fergusson, who withdrew 170 ounces of serious fluid mixed with a considerable amount of pus. After the operation the apex of the heart was found beating half an inch outside the mammary line; and there was comparative dulness all over the right front and lower half of the right

back, with soft distant respiration. The circumference of the right side was now 19½ inches.

By the 27th of February the fluid had again accumulated in large quantity, and as the patient was suffering from great dyspnœa, Dr. Roe once more had recourse to paracentesis, and removed 150 ounces of sero-purulent matter.

For a week or two after the operation the patient did extremely well, and hopes were entertained that no further accumulation would take place; but it soon became evident that fluid was once more being poured out, and in the beginning of April the signs of extensive effusion were as strongly marked as when he was admitted. Dr. Roe now resolved to consult with Dr. Goodfellow, who has had extensive experience in the use of the drainage-tube, as to the advisability of adopting that mode of treatment in this case, as it seemed the most likely means of affording permanent relief. When the consultation took place, on April 9th, it was agreed that a tube should be introduced, and that the upper opening should be made at once, and the lower one a few days later. Accordingly a medium-sized trocar was introduced, and on its withdrawal a few drops of thick purulent matter escaped by the canula. A gum-elastic catheter was then passed into the pleural cavity, and after some flakes of tenacious lymph had been withdrawn which were blocking up the tube, about 60 ounces of purulent fluid escaped in a slow and frequently interrupted stream. The canula was then left in the wound, its aperture being closed by a wooden plug. A day or two after this operation an attack of bronchitis came on (from which he did not recover for about three weeks), so that the introduction of the drainage-tube had to be postponed. Meanwhile the plug was removed from the canula every day or two, allowing at first only a few ounces of sero-purulent matter to escape, but the discharge gradually increased, so that in two or three weeks from ten to forty ounces were withdrawn nearly every day, and there was besides an almost constant and sometimes copious flow from the wound, around the canula. At first it was nearly inodorous, but it soon became extremely fetid, tainting the air of the whole ward. To destroy the fetor an injection of four ounces of tepid water, containing a little of Condy's fluid, was thrown into the pleural cavity every other day.

In the beginning of May the bronchitis had almost entirely disappeared, but marked hectic had set in. His complexion, when not coloured with a bright flush, was sallow and dingy; his eyes were sunken and surrounded by a dark areola, and he had copious night-sweats. The introduction of the tube had still been put off, as it was thought he might

improve somewhat, and be better able to bear the operation; but it soon became evident that he was becoming exhausted, and that further delay would be inadmissible. On May 24th he was placed under the influence of chloroform by Mr. Clover, and Sir William Fergusson passed in the drainage-tube.

From this time he gradually improved; the hectic diminished, his appetite returned, and the discharge lost its fetor and decreased in quantity till it amounted to little more than five ounces in the twenty-four hours. The injection was still continued. In the end of June he began to get up for an hour or two each day, his appetite became excellent, and he felt himself getting rapidly stronger. In another month he felt himself so much better that he resolved to leave the hospital and go home to Devonshire; and, as it was thought that he would be benefited by the change, he received his discharge on the 1st of August.

When he left, the discharge was almost entirely free from odour, and amounted to about four ounces in the twenty-four hours. The right side of his chest was hyper-resonant on percussion, and the respiration was inaudible; on the left side there was a full-toned percussion note, and exaggerated respiration. The left lung extended nearly to the right border of the sternum.

It is probable that in this case the effusion was gradually becoming purulent when the patient was admitted, for the first fluid that was withdrawn contained only a small proportion of pus, and had it formed earlier doubtless its presence would have been indicated by hectic and constitutional irritation.

It is generally in cases of latent pleurisy, where there are few chest symptoms and little constitutional disturbance, that we find the most extensive effusions, and it is in these cases that paracentesis is specially indicated. To Dr. Roe* and to Dr. Hughes† is due the merit of having revived this practice in England. The advantage of the drainage-tube in ensuring a free exit for the fetid, purulent fluid, was well shown in this case.

BOILS AND CARBUNCLES.

By Tilbury Fox, M.D. Lon., Physician to St. John's Hospital for Skin Diseases.

The points involved in Mr. Startin's letter are of so much pathological interest, that I hope I may be allowed space for a few comments. Mr. Startin's therapeutical experience is entitled to the profoundest respect;

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* Medico-Chirurgical Transactions, 1844.

† Guy's Hospital Reports, 1844.

but the explanation which he has given of the cause of boils and carbuncles is scarcely that which *modern* pathological observations would seem to indicate. Unfortunately, empiricism of the rankest and most tyrannical kind has held its sway for many a long day over cutaneous medicine; and no one (since Carswell's day) specially conversant with the facts of general pathology has thought it worth while to study the subject; yet, unquestionably, the philosophical study of skin-diseases is pregnant with results of great general significance, and the case of carbuncles is fully illustrative of this fact.

Mr. Startin views boils and carbuncles as having "frequently or constantly a parasitic origin;" and he bases his belief upon the facts, (1), that they are sometimes contagious; and (2), the success and efficiency of the practice in the cure of these ailments, rather than on microscopic verification: in other words, on the occurrence of *occasional contagion*, and the *beneficial action of acid nitrate of mercury*. One word will suffice in reference to the second argument. Acid nitrate of mercury, in virtue of its *caustic* properties, removes a host of ills—lupus, acne, warts, cancerous masses, and other diseased structures the most dissimilar. Are they then parasitic? Mr. Startin's chief ground for his belief in the parasitic nature of boils and carbuncles is the occurrence of contagion. This, however, is only occasional; and, considering the absence of all relative proportion between the amount and kind of the local diseased action and that observed in parasitic maladies; the absence of parasitic growth in the vast majority of cases; the fact that fungi will but very scantily develop in purulent fluids; the absence of any aperture by which the fungus-germs could enter from without into the cellular tissue; the non-access of air; and the want of relation between the amount of tissue-change and that of the fungus when present,—the unlikeliness of its parasitic nature is evident. And, if we seek amongst the parasitic diseases of animals, of human beings, or of plants, we shall not find any analogical grounds (nay, just the contrary) upon which to rest such a belief. Again, the constitutional conditions anteceding, accompanying, and following the local changes, in relative proportion to the extent and character of the latter, are not seen in any parasitic disease. The occasional presence of vegetable parasites is common to all diseases. Parasites are essentially ubiquitous, and they may be found in almost all skin-diseases; it is only when they *luxuriate*, that they give rise to *special* mischief. It is fashionable to ascribe too many diseases to the influence of parasites.

How, then, explain the contagion of boils? for they seem to be occasionally contagious. What mean we by contagion? The labours of all

pathologists seem to show that it is essentially connected with the growth of living particles of matter, detached from living bodies, and carried to others—of course, under favouring circumstances. Occurrences of the kind are universal in the vegetable kingdom, and there seems no reason why animal cells should not be transplanted and grow as well when isolated as in masses; and they do so. The cells in the secretion from a leprous sore, from Egyptian ophthalmia or the mucous surface of a rinderpest cow, cancer-cells, the pus-cells of syphilis and of small-pox, and, from recent observation it seems likely, tuberculous cell matter, all possess this faculty; and, to take another example, in the case of molluscum, the cells found in the little "varioliform" tumours are the means by which, being transplanted from person to person, the occasional contagion of molluscum is to be explained. One feature that is necessary in all these cases is the presence of free proliferation on the part of the cell-growth, and an adapted state of nutritive fluid (blood). In the active and early stage of boils, the cells of the enlargement may, no doubt, be removed from one body to another, and, growing under favourable circumstances, reproduce the original disease. Why not? What law would this contradict? Dr. Laycock's cases of contagious furunculoid are explicable upon the same ground.

Contagion is scarcely a distinctive feature of any one disease; the *degree* of contagion no doubt is. If it were possible to transplant an alphos scale, and it were to grow and produce alphos on a second subject, there would be no great mystery in it; it would harmonize (though an unusual occurrence) with true pathological facts, and be contagion in one sense of the word. There is nothing improbable, but probable, to say the least, in the supposition that the cell-growth in a boil may be the means by which the disease is rendered "contagious." In carbuncle, there is a good deal of superadded inflammation, and a tendency to gangrenous change, which, implying a tendency to the death of the cell-tissues, is accompanied by a very much less likelihood of contagion.

But what is the pathology of boils and carbuncles? We may assume that in kind it is the same; the difference between the two diseases is dependent upon (1) variations in the vigour of constitution, (2) the state of the nutritive fluid (the blood), and (3) the activity of the local tissues. In the central part of boils and carbuncles are one or more pieces of dead tissue, sloughs, or cores. How is the tissue killed?—by arrest of the circulation, or failure of nutrition? What has been noted about the blood? Three very important sets of facts: 1, bacteridia oftentimes in great amount; 2, excess of urea in the urine, and uric acid in the blood; 3, diabetes. Bacteridia, however, seems to be developed only secondarily,

and to be unable *per se* to produce furuncle. The excess of urea, and uric acid can scarcely be said to be the cause of carbuncle and boils; and we come to the third condition, noticed by Cheselden, Prout, Latham, Landouzy, Marchal de Calvi, and others—viz., a tendency to, or actual, diabetes. Dr. Wagner has given details of fifty-two cases of gangrenous inflammation, including carbuncles and furuncles, in which a diabetic condition existed; and M. de Calvi has confirmed Wagner's observations. My own observations on this point are small; but I am convinced that, if we would clearly understand the true pathology of carbuncle we must carefully investigate the matter in connection with the production of sugar in the system. The existence of a diabetic habit explains satisfactorily the fatality of carbuncular disease, and the serious constitutional disturbance. Nothing is more common than for carbuncles to arise in the course of diabetes; and it will be remembered that Cardinal Wiseman suffered for no less than four years before his death with carbuncles. More recently Dr. Fonseca, of Pernambuco, has investigated this subject; and he tells us that in Pernambuco anthrax is very common, and that one of its forms is regarded as diagnostic of diabetes. Kuchenmeister, Menestrel, and Jordan of Lisbon, have also given similar evidence.

And at this point Mr. Startin's therapeutical experience comes in to confirm the theory I have briefly sketched. He finds successful treatment in the use of *aperients*, *animal* diet, *tonics*, and free stimulation without malt liquors. The avoidance of all saccharine and amylaceous matter, is an essential point; but I venture to affirm that, of all drugs, opium, judiciously used, is the most important. Clinically, I know that it has cured, and does help to cure, carbuncular inflammation, when other things fail: and therefore, if we add to Mr. Startin's recommendations the use of opium, we shall be in possession of a plan of treatment which is not only empirically dictated by the largest experience, but consonant with the most recent truths which pathology has taught us. The acid nitrate of mercury acts well, of course, as a *caustic*.

There are many other points—the origin of the local mischief especially—that I would like to notice; but I have only attempted to indicate that there is a much truer explanation than the "parasitic" hypothesis as to the cause of carbuncle, involving very wide pathological considerations. Skin-diseases have been so long handled from a *surgical*, that it is a novelty indeed for any one to investigate them from a purely *medical* point of view, and to trace connection between them and such a profoundly subtle disease as diabetes; but I again reiterate the remark I have elsewhere made, that "the physician must be possessed of all that general

medicine can teach before he can become the successful dermatologist."—*British Medical Journal.*

Medicine.

SUGGESTIONS FOR THE TREATMENT OF CHOLERA.

By Arthur Ernest Sansom, M.D.

According to my views, cholera is the result of a poison which manifests its effects in two different ways, accordingly as it is in immediate relation with the intestinal canal or absorbed into the circulating blood; as a primary intestinal irritant it may cause the "immediate" phenomena of vomiting or purging, and as an absorbed poison it may ultimately manifest the "deferred" phenomena of central irritation of the great sympathetic nerve, and cause the combined symptoms of true cholera-diarrhœa and collapse.

I. Ordinary Choleraic Diarrhœa and the Premonitory Diarrhœa of Asiatic Cholera.

I think every grain of evidence is in favour of this being caused by a direct irritation of the intestinal canal, whether due to the contact of irritating organized material with the mucous membrane, or whether arising during the elimination of the germs from the circulating blood.

It is one thing to suppose that the germs of cholera in the process of their elimination by the intestinal surface excite diarrhœa; it is another to suppose that this diarrhœa has a directly curative tendency. The amount thus eliminated can bear but a small proportion to the amount diffused throughout the mass of the blood. We cannot stop fermentation by diminishing the bulk of fermenting material; nor can we arrest the course of a zymotic disease by draining the poison which must exist in every capillary of the body through the mucous membrane of the alimentary canal. These observations, of course, apply only to the absorbed poison; if the poison merely exists as a local irritant on the mucous surface, the purgative plan must be directly curative. But even then is there a better course? I think so. It is more feasible to kill the germs than to remove them, for in their removal the elements of nutrition must, *pari passu*, be eliminated.

We come next to the consideration of those bodies which have the power of specifically altering organic or destroying organised matter. Let me insist on the essential difference between these classes of agents. The first exerts no especial action upon living matter other than that

which it manifests upon organic. Permanganate of potash oxidizes every organic body with which it comes in relation. It would be hopeless to administer permanganate of potash with the idea of decomposing the organic poison existing in the body, for its action would likewise be exerted in the intestinal tube itself as well as its contents, whether organized or not. The researches especially of Mr. Crooks show carbolic acid to be a type of the other class—a class which does not destroy or chemically alter organic bodies, which does not interfere with chemical processes, but which destroys organized bodies, animal and vegetable, and stops zymotic change. Is it not more hopeful to render inert the *materies morbi* by such an agent as this than to attempt the herculean task of sweeping away the germs which mingle with every drop of blood to

> "Cleanse the stuff'd bosom of that perilous stuff
> Which weighs upon the heart?"

Mr. Crookes's researches show that carbolic acid destroys the vitality of animal or vegetable cells, and a large amount of evidence is brought forward to the effect that it has had a directly destructive effect upon the poison of cattle plague. If we glance for a moment at those medicines which have been reputed efficacious in cholera, we find that many of them have a powerful action on organic matter. Calomel is antiseptic as well as purgative, and its tendency is to induce a flow of bile, which is Nature's own disinfectant. Creosote has been recommended, and that is an undoubted antiseptic. The compounds of sulphurous acid (*e. g.* the sulphite of lime, to which attention has been lately called) have a power of disinfection which it is not necessary here to recapitulate. Turning to the analogy of another disease, we find that there is no more successful plan of treating diphtheria than by the sulphites recommended by Professor Polli. I have just under my care a case in which sulphite of soda has been most demonstratively successful. Again, we cannot help noticing the success of oxidizing agents in this disease. Nitrate and chlorate of potash are directly oxidizing agents; perchloride of iron is an oxidizing agent—that is to say, in the presence of organic matter it gives up its chlorine, which unites with the hydrogen of water and liberates oxygen. Chlorination in the presence of water is oxidation. I have adduced these considerations to show the probability that some of those medicinal agents which have been used empirically may have been in reality actual destroyers or decomposers of the *materies morbi*.

The treatment of cholera, by doses of carbolic acid has been tried, and though it is as yet *sub judice*, the reports from the *Belleisle* Hospital

hip states that it would appear that "the carbolic acid system has been most successful." The advantage of carbolic acid is that it may not only be administered by stomach and bowel, whereby it acts upon the organic matter in the alimentary tract; but it is most undoubtedly absorbed into the blood, and, being a volatile body, its vapour can easily be introduced by the lungs. The castor-oil treatment, though I do not think it possesses the merits of the disinfecting plan, has done much for the treatment of cholera. Dr. Johnson has enticed Medical Practitioners from the beaten track of astringents, and chalk, and opium—measures which check the process of elimination, and which cause retention, with all facilities for active fermentation and decomposition, of vitiated matter. Whether there were hypersecretion of bile or suppression thereof, the treatment used to be the same—opium and brandy. Opium, which may arrest the perhaps already feeble flow of bile; and brandy, which may contract the narrowed arteries, and force the current of blood back upon the veins.

From the foregoing facts what shall we educe as the most rational treatment for choleraic diarrhœa during the prevalent epidemic?

1st. Thoroughly disinfect the chamber and the house with carbolic acid or McDougall's powder.

2nd. Let the patient be placed at perfect rest, horizontal, with draw-sheets, so that the discharges may be frequently removed. All soiled linen should at once be placed in a vessel containing carbolic acid solution.

3rd. Commence the treatment with the following:—℞ Acidi carbolic-gtt. ij., chloroformi miij. mist. acaciæ ℥ j.—to be taken every two or three hours.

The carbolic acid used, which at ordinary temperatures is a white crystalline solid, should be liquefied by the addition of a few drops of water. The presence of a very minute amount of water is sufficient to reduce the solid to a liquid. A piece of carbolic acid will melt down under the influence of the moist breath.

The objection to carbolic acid is its odour. which resembles that of tar. The presence of the chloroform (which acts locally on the nerves of taste, masks this in great degree, but it may happen that in certain cases this remedy cannot be applied. Under these circumstances, and especially in cases of children, it will be well to use sulphite of soda.*

I think sulphite of soda is better than sulphite of lime, as the latter so soon becomes oxidized to sulphate of lime, and it is well not to administer the lime salts until the germs be, if it be possible, rendered inert.

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* ℞ Soda sulphitis ʒ ss.; æquæ ℥ j. M. Every two or three hours.

4th. The diet, while the absorbing powers are yet active, should consist of beef-tea thickened with isinglass or arrowroot. By being thickened, irritation of the stomach by it is much lessened, and small quantities may be retained in spite of vomiting. Stimulants *purs et simples* should never be given, but mingled with food they may be administered in small quantities—thus, a teaspoonful of brandy with a wine-glassful of milk and the white of an egg may be given every three or four hours.

II. True Asiatic Cholera—Collapse.

Supposing that the fore-mentioned means have been tried, and yet the special symptoms of cholera set in—supposing coldness and cramps and the signs of incipient collapse occur—what are the indications?

The cause, I firmly believe, is an union of the poison with the sympathetic. It may be that the system is so overburdened that nothing can lift the load; * but what plan of treatment offers the best chance?

1. *Counter-irritation of the Epigastrium.*—I have often seen the value of heat employed to the epigastrium in relieving the symptoms of collapse. I have employed it in cases of chloroform administration wherein there have been signs of syncope. Derivation from the solar plexus seems *à priori* likely to do good. What is the best form of counter-irritation in these cases? The carbonic acid, which is close at hand, offers itself. Let it be rubbed over the pit of the stomach for a short time by means of a piece of flannel. Dry cupping to this region may be applied with advantage. Subsequently to the counter-irritation, warmth by means of hot water bottles or hot salt bags should be applied.

2. *Keep the Patient in perfect Rest.*—The stomach should be spared fruitless efforts to exhibit nourishment. It is true that in collapse the powers of absorption are not annihilated; but it must be remembered that absorption is, in fact, a mechanical act (dialysis), and that though mere absorption may take place in this way, still vital transmutation is necessary to make the absorbed material of any avail for nutrition; and this assimilating power is wanting. No medicine and no food should be

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* Cases have occurred in which symptoms of collapse have happened without previous warning, and have continued with fearful rapidity until death. A few days ago a man was observed to fall down in the street. He was taken to an hospital, and died almost immediately. At the post-mortem examination the appearances peculiar to cholera were noticed in the intestinal canal, and there was no other lesion to account for death.

given by the stomach, but enemata of warm water may be administered with the hope, not of supplying heat, but of diluting the thickened blood. The best way of administering the enema is by using a siphon tube proceeding from a vessel placed at a convenient height, or the douche enema, made for me by Messrs. Francis, Upper-street, Islington. By this means a continuous and equable flow is maintained, and the saltatory jet and the frequent mess of an ordinary enema-syringe are avoided.

It has been proposed to transfuse blood or a fluid analogous to it into the veins, and in some instances this practice has met with at least a temporary success. The warm fluid dilutes the thickened contents of the venous system, promotes a flow in the capillaries, then reaches the minute contracted arteries, and distends them. Motion is renewed, and motion is life. It is at first sight very strange that two such opposite courses as transfusion and venesection should have been of equal benefit. But if we consider that the symptoms are due as well to diminished arterial supply as to retention of products which should be excreted, as well to arterial anæmia as to venous engorgement, we may understand the cause. The veins in the case of bleeding being lightened of their load, the excretory products which had narcotized the system being in part removed, respiration and aëration return, and the column of blood moves. In a patient suffering from syncope, motion of the blood is of the first importance for reanimation. If we tilt the feet, so as to allow the column of blood to fall back upon the heart, the failing circulation is rapidly restored. Again, in cases of threatened death from suffocation, it is only when the current of blood is set in motion that the symptoms of danger pass off. In a case of collapse, in which the arteries are nearly empty and the veins over-full, motion of the blood can only be induced in two ways—either by venesection, which allows an escape from the distended right side of the heart, or by forcing a stream *à tergo* from a vein. Either or both these means may be tentatively employed, but neither should be adopted unless other means are found to fail.

If there be any mode of relaxing the contraction of the arteries, this should be tried. I should think a fair trial should be given to inhalation of chloroform. This procedure has been known to relieve the cramps and to induce at least a temporary reaction. Combined with local warmth to the epigastrium and warm injections of the bowel, it may be yet more successful, and it certainly deserves a fair and careful trial. —*Medical Times and Gazette.*

Midwifery and Diseases of Women and Children.

CASES OF POSTURAL TREATMENT IN PROLAPSE OF THE FUNIS.

By Robert Dyce, M.D., F.R.S. Edin., Professor of Midwifery, University of Aberdeen.

As the two following cases were so eminently successful in this but too fatal complication of labour to the child by this method of treatment, I send them for publication.

The first case was conducted by Dr. Thomas Milne, then a student attending my class in this University, and which most opportunely took place shortly after treating of this method. He reports as follows :—

" Mrs. W., aged 27, second pregnancy ; a healthy, rather stout, but well-made woman. When I first saw her she had been in labour for three hours. The membranes had ruptured some time before. The os uteri was fully dilated. The head presented naturally, and was partially through the brim, and hanging in the vagina, and projecting beyond the external parts, was a loop of the funis ; it was pulsating feebly, which ceased during every pain. The pains were regular, and recurring about every ten or twelve minutes. I endeavoured to push up the cord in the interval of the pain, with the patient lying in the usual obstetric position, but failed ; when remembering what you recently, in the course of lectures, had been describing of the success attending the ' postural method' as proposed by Dr. Thomas, of New York, I at once placed the patient on her elbows and knees, with the head and shoulders lower than the pelvis. I now pressed the head of the child a little up, and then steadily endeavoured to push up the cord ; it passed away most readily, but during the next pain it came down as before. I again, in the interval of pain, put it up, but the next pain brought it down. The third time I passed my whole hand into the vagina, and carried the cord beyond the head ; when the pain came on, I could only feel it with the tip of my finger, and when the pain left, the funis had slipped beyond my reach, and did not again return. The patient was kept in the same position until the child's head was fairly in the cavity of the pelvis and nearly touching the perinæum. I then allowed her to take the usual position, and in about two hours the child was born alive, though rather feeble. Both mother and child have since done well."

The second case of funis presentation was further complicated with placenta prævia.

Mrs. M., during her fifth pregnancy, in the latter months had three several sudden discharges of blood from the vagina—the first time during the night, the second time when dressing in the morning, and the third

time also in the morning the day before her confinement ; on all occasions the discharge stopped suddenly, and proceeded from no accident or cause on her part. The symptoms were suspicious of placental presentation, but as she wanted a good many weeks from her full time by her own calculation, and more especially as the loss of blood had produced no particular constitutional disturbance, I risked the uncertainty by not making any examination. When summoned on the night of her confinement (twelve hours after the last flooding), I was fully prepared for the announcement that the flooding had returned; but on inquiry I was rejoiced to learn that the waters and not blood had come off—in fact, there was not a stain upon her linen—and that the liquor amnii had been discharged. On now making an examination, I was met by the funis, not merely a loop, but a mass which the hand could scarcely grasp. She had then no pain, but she had had during the evening some weak and distant indications of uterine action. The funis was very tense, and pulsated strongly ; the head could be felt through the os, which was open to the size of half-a-crown, and very dilatable. Tha external parts were also relaxed. I endeavoured to return the funis while she lay on her left side, but as fast as one portion passed up, another came down, Determining to try the " postural method," she was placed on her knees and elbows, the pillows being removed, when, with the slightest possible pressure, the whole mass of funis passed at once into the uterus. I observed also in this, as on the subsequent attempts, that there was no tenseness of the funis, as if the present position had removed some cause of pressure or obstruction, but when in the ordinary obstetric position the cord was tense and resilient when touched. Finding that on withdrawing my hand prolapse immediately took place, I determined to induce pain, hoping that the descent of the head would prevent its return. I gave her at intervals of ten minutes three several doses of a full teaspoonful of Battley's liquor secalis. Strong pains followed the last dose. The postural treatment was then resumed, and the funis as readily replaced in the interval of pain as before, with the exception of a small knuckle, which seemed adhering near the cervix. The next pain brought it partially down, but on a third attempt, my hand being entirely within the vagina, the funis was passed beyond the head, which was now descending, and retained there with great ease. In another pain it slipped bepond my reach, and gave no further trouble : but still the little knuckle-like portion remained, and which I now discovered to be the placental extremity of the cord and the mass of placenta itself attached closely to the cervix. The patient was now allowed to take the ordinary position, and the child was born in fifteen minutes, strong and healthy.

This plan of treatment was originally proposed by Dr. Gaillard Thomas, of New York, in a paper published in the *New York Medical Journal* for March, 1858, and, although several years have elapsed since that time, the method proposed does not seem either sufficiently known, or, if known, is not appreciated, by the Profession. It seems very clear from the numerous methods proposed to remedy this complication, that no one of them can be depended upon for saving the child, as even in the ablest hands the mortality is fearfully great. Churchill states that practically the mortality is greater than in any other order of labour, more than half of the children in which the funis was prolapsed being lost. Collins lost 73 out of 97 cases, Clark 49 out of 66. I might extend this catalogue, but the fact is so universally admitted, whatever plan is adopted, that it will be unnecessary. Any suggestion, therefore, that holds out a prospect of greater success than has hitherto been attained is deserving of more attention from the Profession. The few published cases scarcely warrant a comparison being made between the result of the postural treatment and the numerous old methods. I feel, however, assured that when it shall come to be more generally known and recognised by the Profession, the rate of mortality will be very materially lessened ; besides this, the facility with which it may be accomplished is greatly in its favour, while the entire absence of all danger either to mother or child is a matter of supreme importance. Dr. Thomas's rules are few and simple, and are applicable equally to cases where the membranes are entire as well as where they have been ruptured.

First, if the membranes are entire and the cord detected, he at once places the woman in position, and trusts to this for its return into the uterus, and uses no manual assistance.

Secondly, if the waters have escaped and left the funis below the head, he places the woman in position and pushes it up with the hand, then induces pain either by friction, or better by ergot, and if the presenting part soould so occupy the pelvis as to prevent its return by the hand, he uses a gum elastic catheter and tape as a *porte-cordon ;* and I would thirdly suggest, from the experience of the two reported cases, that the whole hand should be introduced into the vagina, and if the head interferes, push it up and carry the cord beyond the head, having previously induced pain by ergot.

He believes the cause of the persistence of the accident whatever may have first produced it) to be mainly the slippery nature of the cord, and, secondly, the inclined plane offered by the uterus by which to roll out of its cavity ; and his principle of treatment is to invert this plane, thus turning not only this plane, but the lubricity of the cord to our advan-

tage. This he found could be readily accomplished by placing the woman on her knees and elbows with the head down upon the bed, thus inverting the uterine axis.—*Medical Times and Gazette.*

Materia Medica and Chemistry.

EAST INDIAN QUININE.

The efforts made by the Indian Government to introduce the Cinchona plant in India and Ceylon are detailed in a voluminous blue book lately presented to Parliament. It contains no less than ninety-four reports and letters respecting the efforts made to extend the cultivation of this valuable plant on the Neilgherry Hills, in Wynaad, Coorg, and Travancore, with a goodly number of reports, showing that the ground has been laid for cinchona cultivation in Sikkim, the Punjaub, Bombay, and Ceylon. There is also a very interesting journal by Mr. Cross, who was commissioned by the Indian Government to make a collection of seeds from the cinchona forests near Popejan, in South America.

It appears that in 1861 the Government of Madras desired the Home Government to have an analysis made of the East Indian bark, and a number of specimens were collected and sent over by Mr. McIvor, the superintendent of the Government plantations. Mr. John Elliott Howard, the analyst, in his report, stated, " I have great pleasure in informing you that the result of my examination of the bark of *C. succirubra*, grown in India, is very satisfactory. I have thus far only operated upon 500 grains, proceeding cautiously, as the quantity of bark sent is small. I find exactly the same constituents as in South American " red bark," and was able to obtain a first and second crystallization of very white sulphate of quinine mixed (as is usual when obtained from red bark) with sulphate of cinchonidine; I have also obtained some cinchonine. This must be considered very satisfactory, and a promising result when the immature age of the bark is considered" (viz., two years' growth). On this favourable report the superintendent was authorized to sell 100,000 plants, which were all speedily applied for by the native planters. A second collection of samples was sent to Mr. Howard for his report which was still more favourable. He wrote:—

" I have since devoted most careful attention to ascertain by experiment the probable market value, especially of the first two samples of bark sent. It will not be necessary for me to detail the various means by

which I succeeded in convincing myself, not only of the existence of the alkaloids, but of their being extant in such a state of purity as is certainly not found in the ordinary samples of red bark imported from South America. The result of my examination tended to show distinctly that cultivation has improved the produce of at least this species of cinchona.

"I must remark that the commercial value of specimens of bark intended for the manufacturers of sulphate of quinine can never be ascertained by the mere knowledge of the percentage of alkaloid soluble in ether, since it is necessary that this should be shown to exist in such a state as to crystallize with acids into the required compounds.

"In this case of No. 1, the bark from the thickest part of the lower branches of a *C. succirubra*, two years and five months old, this examination was most satisfactory, confirming that which I stated in my first report as to the facility with which the alkaloids were obtained in a state of purity, although the amount of red colouring matter in the bark is very great. The amount of purified alkaloids I estimated at 6 per cent., consisting of quinine 3·14 cinchonidine 2·06, cinchonine 0·80. This large product of alkaloids might probably be still further increased by surrounding the stem with moss, in the manner which Mr. McIvor has so happily suggested, since Dr. De Vry found 8·409 per cent. of alkaloids, in a stem which had been so treated. It seems to me, from this trial, that the East Indian bark, the produce of *C. succirubra*, will rival in price the Bolivian *Calisaya*, which is by no means the case with the bark of the branches of *C. succirubra*, as grown in South America. It is important to remark, that the very high price of between 8s. and 9s. which has quite recently been paid for red bark in this market, applies only to those pieces of bark from the trunk of the tree which possesses, from their age, a peculiar bright red appearance. I have forwarded a small vial with commercial sulphate of quinine obtained from this No. 1, as also sulphate of cinchonidine separate from the above. I have only to remark further on this bark, that its appearance bespeaks its good quality, and that there can be no doubt the season chosen (24th of February) is most favourable to its being well secured."

Mr. McIvor, the superintendent of the plantations, appears to have tried the plan of mossing the bark of the plant in order to increase the deposit of the quinine therein, and wished to secure it to himself by patent, but the Government were of opinion that as it was invented in the course of his official duty, it would be a bad precedent to adopt. The experiments made by Mr. Clements to Markham proved, however, that the plan was extremely beneficial; he states that a tree two and a

half years old yielded alkaloids of 2·43 per cent., but 5.20 when mossed for a year. These results, he states, gives us the certainty that the correct method of treating the cinchona trees is to cover the stems with moss, to remove the bark periodically, to renew the bark by mossing the stem, and to allow the tree to continue growing until it attains its utmost size. Dr. De Vry told Mr. Markham that with muriatic acid and caustic soda he treated the green bark and produced a fine powder consisting of all the febrifuge alkaloids of the bark, which will practically be as efficacious as the expensive sulphate of quinine.

From a return included in the report, it appears that the number of plants on the Neilgherry Hills, which at the beginning of 1863 were a little over 100,000, in May of the present year exceeded 1,100,000. In the other districts mentioned in the list the same activity is manifested. From Ceylon Mr. Markham reports that the coffee growers have taken to the cultivation of the cinchona in a hearty manner as many as fifty planters having applied for plants, of which 180,000 have been distributed, the manager of a large estate belonging to Rothschild being the foremost amongst them.

It also appears that Government have ordered new roads to be made especially for the use of the districts in India where this plant is being cultivated, and there can be little doubt that the supply will be greatly increased, as the cultivation of the plant is rapidly extending.—*Chemist and Druggist.*

Miscellaneous.

PRODUCTION OF THE SEXES AT WILL.

The following is a very brief extract, condensed from the *American Journal of Science and Arts*, for July, 1864, and January, 1865, of an important memoir of M. Thuny, of Geneva, and of an account of some experiments of MM. Coste and Gerbe, on the Law of the Sexes. The original memoir of M. Thuny was published in the *Bibliothèque Universelle*, in 1863.

This investigator was first led to his conclusions by the following well known facts:—1st. The fundamental or morphological identity of the sexes. From this he concludes that the difference of the sexes is due to slight differences in the process of the development of the ovum in its earliest stages. 2nd. That in plants (those which are unisexual), the character of the sex may be controlled by the management of external agents. 3rd. That, according to Huber, the ova of the Bees, if fecundated early, produce workers (females), whilst if fecundation be

retarded until the twenty-second day, all the eggs deposited produce males.

For these reasons M. Thuny concludes that *the sex is determined* previous to fecundation, or rather *by the maturity of the ovum at the moment of fecundation.*

If no fecundation takes place, the development is arrested at a certain stage, and the ovum perishes; but if fecundation occurs, there is a new accession to life's force, which suffices to carry it through all stages of embryonic and extra-uterine life.

Now, according to M. Thuny, during the earlier stages of the ante-fecundation history of the ovum, the sex is female; but, if the development continues without fecundation, it becomes male. By impregnation the sex is fixed for ever.

In uniparous mammalia the ovum leaves the ovary at the beginning of each rutting period in a very immature condition, and passes slowly through the fallopian tubes, the uterus, and finally, if unfecundated, is discharged.

Now during the whole of this slow passage, the ovum is maturing. If, therefore, fecundation takes place early in the *period of heat*, the sex of the embryo will be female. If later it will be male. * * * Now, if M. Thuny is right, fecundation *at the commencement of the menstrual period will produce females*, and *later, will produce males.* He does not indicate the exact turning point.

Anxious to subject his theory to the list of disinterested experiments, M. Thuny gave minute directions to M. Cornaz, an intelligent Swiss stock-raiser, and son of the former President of the Swiss Agricultural Society. These directions were followed in twenty-nine cases, and *in every case, without exception, the desired sex was produced.* First, in order to propagate the breed of a very fine Durham bull, M. Cornaz wished to get heifers; he made twenty-two experiments, and got heifers every time. He then wished to get a few bulls of half breed to sell his neighbors; he made seven experiments, and got bulls every time.

The great importance of the theory, if true, both in a scientific and a practical point of view—both to the physiologist and the farmer, cannot be doubted. But the history of the theory can only be accomplished by intelligent and very careful observation. The physical signs of the generative period differ in different species, and in different individuals of the same species, particularly in domestic animals. It is always well marked in wild animals, but in domestic animals it is often obscure. Close and patient observation will, however, overcome all these difficulties.—*Nashville Journal of Medicine and Surgery.*

Canada Medical Journal.

MONTREAL, DECEMBER, 1866.

The 29th section of the Medical Act for Great Britain provides the following: "If any registered Medical Practitioner shall be convicted "in England or Ireland of any felony or misdemeanor, or in Scotland "of any crime or offence, or shall after due inquiry be judged by the "General Council to have been guilty of infamous conduct in any pro- "fessional respect, the General Council may, if they see fit, direct the "registrar to erase the name of such medical practitioner from the "register." Acting on this power, the General Council of Medical Education and Registration of the United Kingdom has recently published a list of delinquents with the causes which gave rise to the punishment inflicted on these persons. Among the number we notice the name of an individual who we believe some short time since appeared in our city, but who found Montreal too limited a sphere for his operations, and hence his stay with us cold-blooded Canadians was but short. The sentence as published against this man reads: "Samuel LeMert, for infamous con- "duct in a professional respect." It is to be regretted that in Canada we have not the power to apply a wholesome check on quackery. The sooner our colleges acquire from the Legislature similar powers the better, as it is notorious that several (to the credit of our graduates they are but few) individuals in this country are living on the credulity of their fellow men. We notice by the last periodicals received from Great Britain that a trial was pending on the suit of a Dr. Hunter against the publisher of the *Pall Mall Gazette* for libel. Dr. Hunter may be known to several of our readers; he is described as a Canadian M.D. This is not the case; we believed he received many years ago a Governor General's license to practice in this Province; but had a salutary law, as the one above quoted, been in force, the same punishment might have been meted out, and his name struck off the roll of properly qualified practitioners, "for infamous conduct in a professional respect." The sooner the profession is roused to action inthis matter the better, roused

to a sense of its own dignity, and fully alive to the moral degradation of permitting a continuance of these practices without one single attempt on its part to redress the wrong. Had we possessed that power and exercised it in respect to the individual above alluded to, we would have had at least the satisfaction of reading in the evidence of the plaintiff in the case, that he had received a Governor's license to practice Physic, Surgery and Midwifery in the Province of Canada; but that he had been struck off the roll of regularly registered practitioners for infamous conduct in a professional respect.

In the opening address of Mr. Coleridge, the learned counsel for the plaintiff, he is reported to have said that his client had "published a "book which was advertised, and perhaps not in the best taste, nor could "it be considered strange that it should excite comment. It was the "mode of advertisement adopted in America." To this we would merely remark that it is the mode adopted by quacks and charlatans, not only in America but in all other parts of the world; but that it is not adopted by men who respect themselves, and whose desire is not to make a livelihood by acting on the credulous fears of the multitude. We should suppose that our Canadian Universities have the power without seeking legislative enactment of striking off their roll such of their sons who prove recreant to all that is commendable and honourable in their walk through life; but with regard to the two licensing bodies the College of Physicians and Surgeons of Lower Canada and the General Council of Medical Education and Registration of Upper Canada, the case is different. To enable them to carry out this most necessary check against wrong doing, they must acquire the power from the Legislature; and the sooner it is done, the sooner will the profession in Canada secure that respect from the community and from outsiders which is so desirable. These suggestions we offer with the sincere hope that they may be carried out by those two bodies, and that by joint action the desired amendment to the acts of incorporation giving them summary powers may be secured from the Legislature at its next meeting.

A MEDICAL CONGRESS.

It is proposed to hold an International Medical Congress at Paris during the Exhibition, to begin on the 16th of August, and to last two weeks. It is to be composed of two classes of members; national foundation members, or French physicians, who are to pay a subscription of twenty francs, and adherent members, or foreign physicians, who are not required to make any pecuniary contribution. M. Bouillaud is the president of the

committee. It may interest the profession to know that the following subjects have been proposed for discussion :—

1. Pathological anatomy and physiology of tubercle; tuberculization in different countries, and its influence on general mortality. 2. The general accidents which occasion death after surgical operations. 3. Is it possible to propose to the different governments any efficaceous measures to restrain the propagation of venereal diseases? 4. The influence of the alimentation used in different countries upon the production of certain diseases. 5. The influence of climates, races, and different conditions of life upon menstruation in different countries. 6. The acclimation of European races in hot countries. 7. The entozoa and entophytes which may be developed in man.—*Transcript.*

MEDICAL NEWS.

The use of Sir William Burnett's disinfecting fluid has been ordered to be discontinued on her Majesty's ships, from the fact that several fatal cases of poisoning have occurred by its having been accidentally swallowed by seamen.

Army Medical Department.—It is a noticeable fact in connection with the constant complaint of army assistant-surgeons respecting slowness of promotion, that less than three months since the seniors of these officers obtained their steps under twelve years' service, whereas now there are forty assistant-surgeons on the list who have completed twelve years' service. It would appear, from this fact, that the chance of promotion to a full surgency (the great step) is daily becoming less and less. The evident reluctance of old surgeons-major of thirty years' service and upwards to take their half-pay retirement, is no doubt one of the causes of the plethora with regard to assistant-surgeons' promotion, these officers (surgeons-major) looking forward to their promotion to deputy-inspector-general's rank. However, as this list contains only twenty-seven officers, most of the expectants have but a weak chance of having their hopes gratified.

Mr. Edmund Sharpe has presented to the British Museum a statue of the son of Rameses the Second, about four feet high. He bears a standard on each side; it is of most beautiful workmanship, on hard polished breccia. It is placed near the head of Memnon, in the Egyptian Gallery. It is in a very good state of preservation, and is a beautiful specimen of Egyptian art. It is curious as a lithological specimen, the breccia being formed of the consolidated sand of the desert, including jasper, chert, and other siliceous pebbles.

CANADA

MEDICAL JOURNAL.

ORIGINAL COMMUNICATIONS.

On the Past, Present, and Future of the Faculty of Medicine of McGill University. An Introductory Lecture delivered at the opening of the Session 1866-67, by ARCHIBALD HALL, M.D., Edin., L.R.C.S.E., Professor of Midwifery and the Diseases of Women and Children, McGill University; Honorary Fellow of the Obstetric Society of London; Associate of the College of Physicians of Philadelphia, &c., &c., &c.

GENTLEMEN,—The delivery of the introductory lecture to a course, marks, in a most incontestable manner, the lapse of time, and reminds me that this is the *thirty-first year* since this annual duty has devolved upon me. During this long period of time, in which Dr. Campbell, our present esteemed Dean of Faculty, and myself, have been associated—what changes have taken place in it! Not *one* of the early founders of this School now remains. They have all gone to the "mountains of myrrh, and the hills of frankincense, until the day breaks, and the shadows flee away;" but "though dead, they yet speak," and in unmistakable language they tell *us* to be diligent while "*our day*" lasts. Such thoughts impel me to deviate from my customary plan of lecture, and to devote this one to a sketch of the Past, the Present, and the Future of our Faculty; and I trust that the narrative may prove of some interest.

It feels strange to review scenes long passed away, bespeaking, as it does, the mutability of all sublunary affairs. But if there is one point more than another which is most forcibly proclaimed, it is the unswerving fidelity of the early founders of this School of Medicine to their self-imposed task—one undertaken with the merest shadow of remuneration, and which has now culminated in the fact that their work has prospered in a remarkable degree; and that this School is undoubtedly the first one in

British America, and its lectures may unquestionably vie with those of Great Britain, while I believe them superior to those of most, if not all, of the Colleges of the United States. I speak this with no sentiment of egotism. I but repeat what is now a trite remark. But now to our task.

In the year 1813, died one of the merchant princes of this city, the Hon. Jas. McGill, bequeathing for the endowment of a University or College, to retain perpetually his name, the property known as Burnside, consisting of a dwelling and appurtenances thereon erected, with adjacent land to the extent of about forty-six acres. This property was valued at the time at £5000; but over and above this bequest he also left the sum of £10,000 in money, intended apparently for the endowment of Professorships. There were two stipulations in the will: the one that the residuary legatee, Francis Desrivieres, should enjoy the whole for a limited time; and, secondly, that unless the University was put in operation within ten years, the whole bequest should revert to the residuary legatee. It is now necessary to remark that in the year 1801 a Provincial statute organized "The Royal Institution for the Advancement of Learning," but the Institution was not constituted until the year 1819. The trustees under the will now demanded the bequest from the legatee for the purpose of handing it over to the Royal Institution, an application which was refused by him--the refusal ending in a protracted law suit, which was not terminated until after the lapse of some sixteen or seventeen years. In the meanwhile, the Royal Institution applied to His Majesty George the Fourth for a Royal Charter, which was granted in the second year of his reign, 1821, and thus established the University with full powers. In this connection, I should observe that it was the intention of His Majesty George the Third to have established two Universities in this Province—one at Quebec, and the other in this city; and that Mr. McGill merely contemplated in his noble bequest the endowment of a college in the latter. This intention appears never to have been carried out in Lower Canada, although by the persevering energy of the venerable Bishop of Toronto, the University of Toronto became established in the Upper Province, and most richly endowed with Crown lands. Such was the intention of His Majesty, however; and the intention was also to have endowed these in a similar manner; but, as already observed, from what cause soever, it was never realized, thus furnishing another example of the truthfulness of the Scottish poet's observation, that—

> "The best laid schemes of mice and men
> Gang aft aglee."

We have now to consider another circumstance which exerted a marked influence on this School, and, in truth, mainly contributed to its establishment. I now allude to the erection of the Montreal General Hospital. In the first annual report of that Institution, I find the following:—"In the year 1819, from the increase in the population of this town, the Hotel Dieu Nunnery was found to be inadequate to the reception of the indigent sick; an inconvenience further augmented by the great influx of emigrants from the United Kingdom, some of them labouring under fevers of a contagious nature, and other diseases, that were not admissible into that hospital." Accordingly that year a subscription was taken up for hiring a house to serve as an hospital; and the report further says: "That though this was only on a small scale, the good effected by it was, after one year's trial, so evident, that it was deemed an object highly desirable to erect a building, which might give permanency to the establishment." Accordingly ground was purchased, subscriptions were opened to raise the sum of £2200, the estimated cost of the building, and in January, 1821, a special committee, appointed for the purpose, entered into contract for the erection of the edifice now known as the Montreal General Hospital. Like most other large buildings, the actual cost of its erection exceeded the estimate by the large amount of nearly £1500, but it was finished for the reception of patients in the year 1822; and that there must have existed an urgent necessity for its erection, is proved from the fact, that between May, 1822, and May, 1823, 421 indoor, and 397 outdoor patients received medical assistance from its officers. The medical gentlemen who thus early gave their services were Drs. Robertson, Caldwell, Holmes, Loedel, Stephenson, and Lyons.

With an hospital at their command, in which clinical instruction might be afforded, the thought was now conceived to establish a school of medicine in connection with it; and the following extracts from the early "Minutes of meeting" of the Faculty will prove the best introduction to what follows. On October 20th, 1822, a meeting of the medical officers of the hospital was held, consisting of "W. Robertson, W. Caldwell, A. F. Holmes, J. Stephenson, and H. P. Loedel, for the purpose of taking into consideration the expediency of establishing a medical school in this city," in which it was unanimously resolved "that the considerations which seemed to warrant so desirable an object should be drawn out and laid before the next meeting of the Board, to be held on the 27th of the same month, and that Drs. Stephenson and Holmes be appointed a committee for the said purpose." Such then was the actual commencement of this School of Medicine; and I imagine that it will prove a

matter of no little curiosity to see upon what reasons their conduct was subsequently based, a fact in which not themselves alone were immediately concerned, as far as we may gleam from the subsequent proceedings, but one in which other eminent individuals of this city were at the time intimately interested, doubtless from the influence which it might exert upon their own children at the time. At a meeting of the same Board, held on October 27th, 1822, the same officers present, the subjoined resolutions were adopted:—

"The medical officers appointed by the President and Directors of the Montreal General Hospital having seen the great difficulties which the student in medicine in this country has to encounter before he acquires a complete knowledge of his profession; knowing the great inconvenience resulting to many from the necessity at present existing of spending several years in a foreign country to complete a regular medical education, and being convinced of the advantages which would result from the establishment of a Medical School in this country, have met to consider of the possibility of founding such an institution in this city. After due deliberation, they conceive that the following considerations warranted an endeavour to promote so desirable an object:

"1st. There can be but one opinion concerning the utility and necessity of a School of Medicine in this Province, seeing that the condition of Medicine in many parts sufficiently attests the want of opportunities of medical instruction. Such an Institution will tend very much to remove this growing evil, by the facility it will afford of acquiring medical knowledge.

"2nd. There can be little doubt that students from different parts of this Province, as well as from Upper Canada, and probably from the adjoining States, would eagerly profit by the opportunities thus afforded of acquiring a sound medical education. Those who might not intend to pursue their studies at a foreign University would be enabled to obtain an adequate knowledge of all the useful branches of medicine, while those who, after attending this Institution, might wish to enjoy the advantages of study in other countries, would be better able to benefit by them.

"3rd. They consider that the Montreal General Hospital is an Institution which much favours the establishment of a School of Medicine in this city. It affords the student a facility of acquiring a practical knowledge of physic never before enjoyed in this Province, an advantage which will be greatly enhanced by the establishment of lectures on the different branches of the profession.

"4th. If such a plan should be carried into effect, a pecuniary benefit

would result to the funds of the Hospital, highly advantageous in their present state.

"5th. They are further encouraged to attempt the formation of a medical seminary, when they reflect that the Medical School of Edinburgh, the basis of which they would adopt for the present Institution, now justly considered the first in Europe, is of comparatively recent formation, it being little more than one hundred years since medical lectures were first delivered in that city. And the early history of the Royal Infirmary of Edinburgh is not dissimilar to that of the Montreal General Hospital.

"6th. In the event of the establishment of a Classical and Philosophical Seminary in this city, the two institutions would be materially benefitted.

"7th. To ensure the success and permanence of such an institution, it would be highly desirable that the persons composing it should be associated by Royal Charter or act of incorporation.

"8th, and lastly. Should such a desirable object be attained, the following gentlemen, in furtherance thereof, have agreed to deliver lectures on the several branches of the profession:

Anatomy and Physiology,.....Dr. Stephenson.
Chemistry and Pharmacy,.....Dr. Holmes.
Practice of Physic,.....Dr. Caldwell.
Midwifery and Diseases of Women and Children,...Dr. Robertson.
Materia Medica,.....Dr. Loedel.
Botany,.....Dr. Holmes.
Surgery,.....Dr. Stephenson.

"It was finally resolved that the foregoing resolutions and opinions be forwarded to His Excellency Lord Dalhousie (then Governor in Chief) for his consideration."

On the 30th November, 1822, a letter was received from His Excellency, through his secretary, Mr. Cochrane, approving, among other matters, "of the scheme proposed by the medical officers of the Montreal General Hospital for connecting with that establishment a medical school for giving a course of lectures in the different branches of medical science." The letter further remarks that "His Excellency will readily give his support to this desirable object, and will do all in his power to assist the endeavours of the medical gentlemen who have come forward in so liberal a manner."

On the 4th February, 1823, at a meeting of the gentlemen aforesaid, it was resolved to issue an advertisement, to be published in the princi-

pal Upper and Lower Canada newspapers, announcing the organization of the "Montreal Medical Institution," and the intended delivery of a course of lectures during the subsequent winter. I will read you the advertisement, which, before publication, was sent to the Governor-in-Chief for his approval, which was cordially granted, and which was the first public announcement of a course of medical lectures in this Province :—

"MONTREAL MEDICAL INSTITUTION.

"The medical officers of the Montreal General Hospital having seen the great difficulties which the student of medicine in Canada has to encounter before he can acquire a competent knowledge of his profession; knowing the inconvenience resulting to many from the necessity at present existing of spending several years in a foreign country to complete a regular medical education; considering that the recent establishment of the Montreal General Hospital affords the student a facility of acquiring a practical knowledge of physic never before enjoyed in this Province, and that this advantage will be greatly enhanced by delivering courses of lectures on the different branches of the profession, held a meeting to consider the practicability of founding a medical school in this city.

"The circumstances which rendered the success of such an institution probable, and the measures intended to be adopted for carrying the same into effect, having been submitted to His Excellency the Governor-in-Chief, he was pleased to signify his entire approbation of the plan.

"It is therefore resolved to deliver lectures on the following branches of the profession, to commence on the second week of November next ensuing:

Anatomy and Physiology,.....J. Stephenson, M.D.
Chemistry and Pharmacy,.....A. F. Holmes, M.D.
Practice of Physic,..... .W. Caldwell, M.D.
Midwifery and Diseases of Women & Children,.W. Robertson, Esq.
Materia Medica, ...H. P. Loedel, Esq.
Surgery,.....J. Stephenson, M.D.

"In the course of the summer, 1824:
Botany,.....A. F. Holmes, M.D.

"Montreal, February 4th, 1823."

We thus observe, that in its origin, from its very commencement, this school was literally established under vice-regal auspices. The earliest session, however, of which I can trace a record, was that of the year following, viz., 1824-25; and had in attendance but twenty-five students, a number which scarcely augmented for years. This fact was anything

but flattering or encouraging; but the indomitable perseverance thus early displayed, under most discouraging circumstances, speaks most highly in praise of these early founders of the school. Like in our days, so in those, they were met with an opposition, in the establishment of a French Canadian school. There can be no question but that an opposition in any walk of life, or in any enterprise, may prove not only healthy, but useful, and especially if based upon generous principles; but in this case the motives, so far as we are permitted to judge, would appear to have been very much the reverse, as it was based upon a national peculiarity, that of difference of language. Looking at the subject now, in its broadest point of view, and considering the peculiar circumstances in which every one practising in Lower Canada is placed, a knowledge of the French language appears to me as indispensable to an English student, as that of the English is to a French one. The law of 1847 demands a knowledge of both languages on the part of every student. To say the least, it is but the educational accomplishment of every gentleman; and to base an opposition upon such a pretext, is but a paltry excuse for a more hidden reason. The effect, however, was not advantageous to either party. The Institution became weakened, while the French School acquired no increase of strength. The Institution, however, despite of all obstacles, "pursued the even tenor of its way;" and in 1828, to prevent the lapse of the bequest to the residuary legatee, and as it was found impossible to fill up the chairs in the several faculties of Law, Arts and Divinity, the Montreal Medical Institution became the Faculty of Medicine of the McGill University, a position which it has ever since held. During the few years which had now elapsed, the only change of moment was the retirement of Dr. Loedel from the chair of Materia Medica (in fact, he never discharged its duties), and the substitution of Dr. Lyons in his place. The tickets of the lecturers were acknowledged in Edinburgh, but at the ratio of two courses for one of that University; and as in those days it was a customary practice for every young man whose parents could afford it to complete his studies in some European school, and this chiefly the Edinburgh one, a high tribute was thus awarded to the labours of the lecturers. From this period, however, the tickets were accepted at par.

In the year 1843 was founded the University Lying-in Hospital, the domestic control of which was placed under a Committee of Ladies who kindly undertook the supervision, while the professional duties were discharged by the Faculty of Medicine of the University, the Professor of Midwifery being the attending Physician, there to exemplify by practice the principles inculcated in his class-room. This Institution

has been very successful, and has effected a vast amount of good by the relief of an immense amount of suffering and distress, which, except for its existence must have been encountered. Originally intended for married women, its advantages have been extended to others. Last year 128 patients were admitted and partook of its advantages, while, since its establishment, upwards of 3000 patients have availed themselves of them. All that we want now is a new and proper edifice, erected upon principles recognized as imperative in the construction of all Hospitals, based upon the better acknowledged rules of Hygiene of the present day; and, when this takes place, which I trust will be in the course of another year or two, we shall hear less of the incursions of puerperal diseases, which have been unfortunately too frequent in the rooms of the private dwelling, which for years past has represented its "local habitation."

The origin of our library, now a very fine one, and containing upwards of 4000 volumes, deserves a passing notice. It was founded by a resolution of the members of the Medical Institution on the 27th August, 1823, and is the property of the members of the school collectively, who, by agreement, debarred themselves from all capability of personally alienating their right or interest in it. To exhibit the judicious foresight and care of the founders of the school, I will transcribe the rules by which they bound themselves, the fruits of which we are now reaping. They are few in number, but concise:—

"1. The library is exclusively the property of the members of the Institution collectively.

"2. No member can transfer his share in the library.

"3. The library cannot be dissolved without the unanimous consent of the members.

"4. Any member of the Institution dying or resigning his situation, loses all right as proprietor of the library.

"5. Any person becoming a member of the Institution, becomes likewise a proprietor of the library, with rights equal to those of an original proprietor, provided he pay to the treasurer one-half of the amount of subscription paid by the original proprietors; and

"Lastly. Should the Medical Institution be dissolved, the library shall still remain, unless dissolved by unanimous consent. In case of the dissolution of the Institution, it may be lawful for the proprietors to admit a greater number of proprietors, and new-model the library."

And finally, at a meeting of the members, held on the 6th October, 1824, the minutes furnish the following information in regard to the Institution and the Library: That each member should pay to the

treasurer the sum of £7 10s. for contingent expenses; that each member pay annually to the library the sum of £2 10s.; that students pay a fee of 10s.; and that the profession in the town be notified of the existence of a Library, and that every member of it may avail himself of its advantages by paying the annual fee of £1 1s. At present no fee is demanded from the student, and its exclusive sources of maintenance and enlargement are the matriculation and graduation fees. I have only to say that the Library was the late Dr. Holmes' especial care and pleasure, and its present condition is mainly, if not entirely, due to the self-denying exertions of that most estimable friend and colleague.

In 1828 I began the study of medicine, and at the session of 1831-32 I was a student of three years' standing. The latter year was a memorable one for Canada, and especially for the city of Montreal. The population of this town was that year 30,000, when the epidemic of Asiatic cholera broke out, and carried off in less than three months 3000 of the inhabitants. During that memorable summer, both students and physicians, all worked hard both by night and by day. During the day, in conjunction with a fellow student of the name of Logie, the first graduate of this University in 1833, I had charge of and attended the Cholera sheds, two long wooden buildings at Point St. Charles, while we alternately slept every week at Dr. Robertson's house to do his night work, as he was so hard wrought with professional duty during the day, that he was glad to seek and obtain as much repose at night as possible. I never can forget the still quietude of the town, when called out during the night to visit for the doctor some new and unfortunate case. Nothing broke the calm serenity of the summer night, while walking or riding through the streets, except the occasional clatter of the feet of some man running for professional aid, or the pitiful cry of another labouring under the disease, and calling for assistance. The arduous duty of that summer proved too much for the constitution of Dr. Caldwell, and I heard in Edinburgh, to which place I had gone that autumn to complete my studies, of his decease from typhus or typhoid fever. Dr. Racey, a young physician, filled up the vacancy; but his connection with the Faculty ceased in 1836, when he returned to Quebec, his native place, and Dr. Campbell and myself were associated with some alteration of the chairs—the former lecturing on Surgery, and myself on Materia Medica, doing, in fact, that session Dr. Holmes' duty, so far as that branch was concerned. Repeated alterations have taken place in the composition of the Faculty since that period of time, the object of them all having been the gradual extension of the curriculum, with a proportionate augmentation of the staff, so that from the original five who composed it, the number has

now increased to nine or ten, the object of this increase having been to develop more thoroughly each branch of medical study. and to harmonize the system of instruction here more intimately with that of the schools in Great Britain.

The next important circumstance connected with the College was its formal opening in 1843, and a pamphlet now before me contains the address of Dr. Bethune, Principal, on the occasion. The organization of the College appears now to have been completed, with the exception of the Faculty of Law. Among other matters, he observed that "a Professorship has been established in the Faculty of Medicine, with a competent number of lectureships in its various branches, and the Governors entertain a strong hope of being enabled shortly to establish a professorship in the Faculty of Law. In the Arts, professorships of Classical Literature, and of Mathematics and Natural Philosophy, have been established; and to all these appointments have been made, with the exception of Mathematics and Natural Philosophy." A professorship was also established in Divinity, which gave rise to a vast deal of acrimonious discussion, and was one, among other causes, which led to an amendment of the charter in 1852, with the abolition of the Divinity chair. These are matters, however, with which *we* have nothing to do. I will only, in conclusion of this division of our subject, say that, with the exception of some three years, at the time of the rebellion in 1837, the sessions of our faculty have been regularly held. Commencing in 1825 with twenty-five students, it was not until the year 1844 that the number became increased to fifty. Since then its numbers have steadily progressed, and the matriculation register of this year exhibits the large number of 181, while the number of graduates settled over the Province, and in foreign countries, some of whom are practising with distinguished success, is upwards of 400. I need not say that the success which attended our efforts created great opposition. I have already alluded to the French School of Medicine, established simultaneonsly with the foundation of this School, and which continued in operation for many years, but it was succeeded, if I remember rightly, after a temporary suspension, by the present one, which was founded in 1843, and incorporated by an Act of the Provincial Parliament in 1845. This was succeeded by the Incorporation of the St. Lawrence School of Medicine in 1851; but the latter, in the course of a few years, was discontinued, from the want of support, and soon "paled its ineffectual fire."

The last subject which I desire to notice in regard to the past history of our Faculty is the relative position of this School of Medicine and the French School of Medicine; and I am the more anxious to notice it, as

the facts connected with it have been a good deal misrepresented. I must notice the restless activity of the members of the French School, who regularly every session of the Legislature, since its Incorporation in 1845, had applied for the power of granting diplomas, a measure which, in the interests of the Profession, we felt it our duty to oppose—as experience has universally demonstrated this fact, that, in accordance with the number of Institutions possessing the power of granting degrees or diplomas, so has the profession degenerated; while another very powerful argument against the delegation of any such power consisted in the fact that the same privilege could not have been justly withheld from every other school of medicine existing and to exist. In order to put an end to the wrangling, which was continually going on, in the year 1847 an alliance was entered into between the two Schools, by which the School of Medicine became virtually the French Department of the Faculty of Medicine of McGill College. The terms of the agreement were embodied in a paper, copies of which were mutually interchanged; and I will take the liberty of quoting certain portions of it.

The third clause states "that the students of the School of Medicine shall be entitled to become candidates for graduation at McGill College, fulfilling only the requirements necessary to bring them within the class of students of the University, which are, first, matriculation during one session, and, second, during that session, having taken out any two of the six-months courses required by the curriculum, which together form an *annus medicus*.

The fourth clause states that "the examination of the students of the School of Medicine for the degree shall be conducted by the Lecturers in that School, but shall be held within the College, and in the presence of the Medical Faculty, and generally be in accordance with the statutes of the Medical Faculty.

"Fifth. The students of the School of Medicine thus obtaining the privilege of becoming candidates for the Degree, the School of Medicine will cease to grant certificates of qualification."

[I should here remark, parenthetically, that the School was in the habit of going through the farce of examining such students as presented themselves to the Lecturers, granting them a regular Diploma, pocketing a fee for it, and this without the slightest legal authority.]

The sixth, seventh and eighth clauses relate to the mutual enjoyment or use of the respective libraries; that the class fees should be the same in both Schools; and that the graduation fees accruing from their students should be paid over to the School of Medicine, for the sole use of its library.

During the three years in which this arrangement was in operation, fourteen of the students of the School of Medicine availed themselves of its advantages—advantages superior to any which it could have obtained from the Legislature. In 1850 the Members of the School virtually annulled the agreement with the Faculty in again renewing their agitation for an alteration of their Act of Incorporation, so as to enable them to issue certificates of qualification. On the 26th August, 1850, at a meeting of the Faculty, the following minute will at once explain the proceedings:—"The question of the late proceedings of the School of Medicine, as regards their attempt to procure an alteration of their Act of Incorporation, by which the agreement between it and the Medical Faculty was virtually annulled, was then considered; and the Secretary was directed to write to the Secretary of the School of Medicine, informing him that, in consequence of the School having virtually withdrawn from their engagement, especially in reference to their granting a certificate, the Faculty will no longer continue to them the privilege of examining their students seeking graduation, nor of receiving the graduation fee as formerly; *but that no abridgment of the privileges of the students will take place.*" Upon the strength of this resolution, whatever the Lecturers of that School may say, the student enjoys the same privilege now that he had before the breach of faith took place. All that was done by us was to withdraw from an alliance with parties who could keep no faith with us; but as it would have been unjust to punish the students for what was no act of their commission, their relationship with the University has been ever since maintained by the Faculty, although not one since 1850 has taken advantage of this opportunity, doubtless from some misconception or misrepresentation, one of which actually occurs in the answer of Dr. Meilleur in the "Report of the Special Committee on the Laws relative to the practice of Physic, Surgery and Midwifery in Lower Canada," dated October, 1852. Dr. Meilleur's report concludes with "an extract from the registers of the Montreal School of Medicine and Surgery." I will merely quote as much as suits my present object and to save time:—"A certain number (fourteen) were examined by the Professors of the said School, and the rest by those of McGill College" (not one was examined by any Lecturer of the College, although one, and sometimes two of them were present, and who were usually indifferent to the proceedings), "in pursuance of an arrangement entered into between the School and McGill College, but *which arrangement was broken by McGill College, since the request made in* 1851 *to the Legislature by the School of Medicine and Surgery, in order to obtain the right of granting to its pupils a certificate which the Provincial Board would be bound*

to receive without requiring the possessor to submit to further examination." This extract from the register of the school was signed by Drs. Munro and Boyer, and is a thorough condemnation; but it told only a *part of the truth*, by no means the *whole truth;* and I feel assured that if the students of that school only knew the privileges to which they are even now entitled, quite a number during the last sixteen years would have availed themselves of them. Such then, gentlemen, is the last relationship of the Medical Faculty to the School of Medicine, a school which has now effected an affiliation with Victoria College. For what purpose? To obtain for its students a collegiate honour, one which they could have obtained at any time from our own University at a less expense than by a visit to Cobourg.

Such, gentlemen, is a sketch of the *past* history of the faculty of Medicine of this University. It is chequered at the best, and exhibits a protracted struggle in favour of the Profession, with whose best interests it has been always identified. The present class, as well as those of preceding years, attests in the most marked manner that its labours are appreciated. As Professors, the present members of the Faculty pretend to nothing more than a faithful delineation of those branches of medical science which have been severally committed to their trust; and if our College has enjoyed a name second to that of none in British America, or even on this Continent, it is simply attributable to the fact, that its Professors have done their duty—a fact moreover demonstrated by the numbers present this day.

But what shall I say of the present and future of the Faculty? No change whatever has been made in the curriculum for the degree, except as regards the classical attainments of the candidates for it. This again is a move in the right direction: one which I have long wished to see. There can be no doubt of the truth of the saying, that the more highly educated a young man is before commencing the study of Medicine, the better prepared his mind will be to profit by the lectures. Of this there can be no doubt. The General Council of Medical Education and Registration of Great Britain required a few years ago a severe test on the part of a candidate, and the Upper Canada Act, passed during the last session of the Legislature, has adopted very nearly the same scheme. To these we have been compelled to conform. Among the requirements is a knowledge of the Greek language. I must confess that none can compare with this one in beauty or sublimity. Its study is most seductive; and when I remark that by far the greater portion of our medical terms are Anglicised compounds from its words, its importance to an educated physician can scarcely be overrated. In fact,

a single word derived from the Greek language will be found to be more expressive, and to convey to the educated mind ideas which no word in the English language would be adequate to effect, and which a whole sentence would be required sometimes to convey. No, gentlemen, if there is any truth in the old quotation—

> "A little learning is a dangerous thing;
> Drink deep, or taste not the Pierian spring."

The Graduates of this University *must not* be inferior in mental culture to those of any other University. In this, as in other matters "*nulli secundus*," must be as it has ever been, our motto; and although, it may seem difficult to acquire that primary educational knowledge which is now demanded, and however much its utility may be doubted, this would never be questioned by a scholar, that a perusal of some of the old authors is in reality in leisure moments a source of extreme and unalloyed pleasure.

Time now warns me to be brief. What shall I say of the future? Judging from the past, a splendid future lies before this Faculty; but to secure it, everything depends upon the present. If we are true to our duties, the future can be easily foreshadowed—one of unwavering success; but if recreant, then the opposite condition must follow. But let me trust that the same energy will be exhibited in the future as in the past; and that in subsequent years, when *we* are gathered to our fathers, our young men may point to this City, as we do now to Edinburgh, and pronounce it, as well from its edifices as from its educational establishments,—the modern Athens of Canada. "So mote it be."

REVIEWS AND NOTICES OF BOOKS.

A Treatise on the Principles and Practice of Medicine, designed for the use of Practitioners and Students of Medicine. By Austin Flint, M.D., Professor of the Principles and Practice of Medicine in Bellevue Hospital, Medical College. Second edition revised and enlarged, Philadelphia: Henry C. Lea, 1867; Montreal: Dawson Bros.

It was only last spring that the first edition of Dr. Flint's work made its appearance, and we are now called upon to acknowledge the receipt of a copy of the second. The preface informs us that four months from its first appearance, a second edition was called for. We heartily congratulate Dr. Flint upon this very marked verdict—which the profession have

given upon his work, a verdict which we believe few medical authors ever receive. Several portions of the work have been re-written, numerous additions have been made, which enhance the practical utility and value of the work. As might have been anticipated epidemic cholera has received a good deal of attention, and information derived from its appearance in New York during the past year, is brought down to the month of October, 1866. A report is introduced from Dr. Dalton, who was appointed by the Civic Government of New York, in view of the approach of the epidemic, principal executive medical officer for the city. From it we learn that the first case occurred on the first of May, the second on the following day, and the third on the 6th of May. No more occurred till the 4th of June, when the disease re-appeared, and for a considerable time, numerous cases occurred daily. The report also states that the original development of the disease was not distinctly traceable to any particular emigrant passenger nor any particular lot of baggage, nor merchandise, but it followed the arrival in the harbour of infected emigrant ships.

Hygienic measures were liberally and faithfully employed, and with much success in diminishing in many instances, and in one or two altogether extinguishing the disease, as is evidenced by the following letter which appears at page 475, from Frank H. Hamilton, M.D.

"No. 64 Madison Avenue, New York, Friday, Aug. 10, 1866.

"*Sir:* The first case of cholera occurred in the workhouse on Blackwell's Island on the 28th of July, the last case on the 6th of August. The epidemic continued, therefore, nine days, during which period, of about 800 inmates, 123 died.

"You know the building very well. It is admirably constructed for the purposes for which it is designed, and, so far as my observation extends, it is always perfectly clean. Until now, the inmates have been as healthy as this class of people are usually found to be."

"The explanation of the rapid propagation and fatality of the disease after it once had gained admission was believed to be mainly confinement and crowding. It was observed that the cholera was for several days exclusively among the women. The women had the smallest apartments, were most crowded in their cells, and, with few exceptions, were employed within the building in close contact with each other during the day. The men were employed mostly in the quarries, out of doors."

"On Wednesday, when the epidemic was at its height, the 1st of August, I gave my pledge to the Board of Commissioners and to Mr. Schultz, President of the Board of Health, in your presence, that I would

drive the cholera from the workhouse in from three to five days. I said this in no spirit of boasting, but in simple reliance on the well-known and established laws of hygiene. The Commissioners executed literally and promptly every order which was given by the Committee.

" The epidemic began to decline from the the day they were fully carried out, and on Monday last the pledge was redeemed. The following is a summary of the sanitary means adopted :—

" The inmates were distributed as far as the vacant places in the building would permit; the cell-doors were left open at night; the night-buckets were supplied with disinfectants and left outside; the women's cooking-rooms were converted into hospital wards, and the women were kept out of doors from morning until night; corn-meal and molasses were taken from the diet table; coffee, tea and vegetables were added; at night each inmate was required to take, whiskey one ounce, water three ounces, tincture of capsicum fifteen drops. [These people are our city vagrants, and probably are habitually intemperate.] A variety of disinfectants were employed freely and constantly in every vessel and closet which received the excreta; even the excreta from the stomach were disinfected immediately after they were received into a vessel or fell upon the floor; stoves were placed in each hospital ward to insure a draught; all windows were kept open day and night; the clothing taken from cholera patients was sent directly to the boilers; a ward was established for patients with the diarrhœa, and the value of this measure is shown by the fact that of the large number received into this ward only one died. It was difficult, however, to persuade these poor creatures to report themselves at this stage of the disease."

Dr. Flint lays great stress upon prompt attention being paid to the premonitory diarrhœa, which, he believes, is present in the great majority of cases. He says : " This premonitory diarrhœa is amenable to simple measures, and if effectually treated, there is reason to believe the supervention of cholera is prevented. Giving the results of my own experience with respect to this fact, in 1849, for three months I prescribed for as many private patients with the premonitory diarrhœa or cholera, as my physical endurance would permit, my practice being chiefly among the prudent classes, and I had during this epidemic but ten cases of cholera in private practice. During the epidemic of 1852, I had about the same number of cases of cholera in private practice; in not a single case had I been called upon to prescribe for premonitory diarrhœa, and I prescribed for hundreds of persons with simple diarrhœa, not one of whom had an attack of cholera." Under the head of treatment, there is little that is new mentioned. The hypodermic administration of morphia was tried at

Bellevue Hospital, and on Blackwell's Island. The vomiting, cramps and purging were generally, very promptly arrested; recovery, however, followed in but a small proportion of cases. Many of the cases when seen were in a state of collapse, and many attacked had been patients in hospital suffering from other diseases, so that the field experimented upon, was anything but a favourable one. We believe that further experience will prove this method a valuable adjunct in the treatment of cholera.

Under the head of epilepsy, our author says: "Since the first edition of this work was written I have known several cases of epilepsy in which this remedy (bromide of potassium) has prevented the recurrence of the paroxysm. My colleague, Professor Barker, has found this remedy successful also in preventing the paroxysms. He is accustomed to prescribe it in doses of thirty grains, three times daily, and to insist upon its continuance for a long period." While recently in Edinburgh, Dr. Warburton Begbie, now lecturing upon the practice of medicine in the Edinburgh University, informed us that he placed great reliance on this salt in epileptic attacks. He mentioned one case, a leading member of the Scottish Bar, who from epileptic attacks had been obliged to retire to private life—the fits occurring so frequently, and often seizing him when engaged in public duties. He placed him on half drachm doses, three times daily, of the bromide of potassium, and with the most marked success. There has been no recurrence of the paroxysms for upwards of a year, and the patient has once more been able to resume his public career.

Altogether we consider this second edition of Dr. Flint's work an improvement on the first, and can cordially recommend it to our readers.

The following is the proposed scale of pay in the recommendations forming the basis of the Warrant for the Army Medical Officers, which General Peel has promised to issue at the commencement of next year. The increase of pay, however, will not commence until April next:—Under 5 years' service, 10s. a day; above 5 years, 12s. 6d.; above 10 years, 15s.; above 15 years, assistant-surgeons, 17s. 6d., surgeons, 20s.; surgeons-major above 20 years, 24s.; above 25 years, 27s.; deputy inspector general of hospitals, above 20 years, 30s.; above 25 years, 32s.; above 30 years, 35s; above 35 years, 37s.; inspector-general of hospitals, above 20 years, 40s.; above 25 years, 45s.; above 30 years, 47s.; above 35 years, 50s. In addition to this, the Warrant will, of course, give those privileges of relative rank which were conceded by the Warrant of 1858, and has since been most improperly withdrawn.

PERISCOPIC DEPARTMENT.

Surgery.

THE ROYAL LONDON OPHTHALMIC HOSPITAL (MOORFIELDS).

The propriety of establishing Special Hospitals has been much discussed, and though the general verdict has been against them, still certain exceptions are almost universally made, and amongst such may be placed Ophthalmic Hospitals. Yet we must not only acknowledge, but we ought to keep constantly in mind, the truism that the ocular apparatus is a physiological unit of the whole organism. Whilst, then, its diseases and accidents require special skill there are great objections to the narrowing of any one's mind to the study of the physiology and pathology of the eye, as of a complex optical organ liable to get out of order. At the special Hospital about which we now speak, it is a rule, without an exception, that each member of the staff is, or has been, a member also of the staff of one of the large general Hospitals. Thus the narrowness that special study might foster is rendered next to impossible. Still, the variety of diseases and accidents to which the eye is liable renders the study of them very extensive, and sufficient to employ most of the time and intellect of a goodly number of surgeons. From their minute investigations and particular experience the members of the profession at large can profit. and become enabled to treat with greater advantage such cases as come under their care.

We purpose in this article to bring before our readers some account of the Royal London Ophthalmic Hospital, Moorfields, and of the work that is carried on there.

This institution is held, we believe, to be the father of similar ones. It was founded in the year 1804, and for the first eighteen years its home was in Charterhouse-square. At this time it was known by the name of the London Eye Infirmary. In the year 1822 it was removed to its present site.

It makes up forty beds for in-patients, sixteen being allotted to women, and twenty-four to men. The number of beds seems small, and at the present time is not sufficient for the large number of patients that apply for relief. However, as the length of stay in the Hospital is generally short, a great many are admitted in the course of a twelvemonth; thus last year there were 839 admitted as in-patients, and of these 742 were operated on. Indeed, few patients are taken in except for operation.

Now, if diseases of the eye are to be thoroughly worked out at a special Hospital, we think it would be very desirable that more cases of actute cerebral disease, in which optic neuritis so often occurs, should be admitted. There is a vast amount of Ophthalmic Medicine in Physicians' practice, and if some of our dexterous ophthalmoscopists would frequently visit the Medical Wards of our large Hospital they would supplement the knowledge they acquire at a special institution in a very valuable degree. As has been remarked elsewhere, the differentiation of medical practice requires more scientific integration. Ophthalmologists require to see the ophthalmic aspect of severe diseases of the nervous system in which amaurosis dwindles to an incident; and Physicians should use the ophthalmoscope more frequently, in order that they may not ignore altogether ocular symptoms of great value in diagnosis and prognosis.

The wards contain only a few beds each; three are devoted to males, and three to females. The wards are lofty and comfortable; the walls are painted a pale green colour, and light is nearly excluded by green Venetian blinds. The fire-places are surrounded by high wire guards—a necessary precaution to prevent the patients falling into the fire, as there is so little light, and many of them cannot see, or are not allowed to uncover their eyes.

The operating theatre is on the first floor, and is necessarily rather small, there being only two rows on each side of the area in which the operating couch is placed. As the operations are mostly of a very minute character in a very narrow field, visitors can see nothing of them unless they are very near to the patient.

There is a waiting-room adjoining the theatre, in which patients are seen who are in the house, and who cannot be brought down stairs. This room is used on Sundays as a chapel.

The plan of the out-patient department is as follows:—There is a waiting-room for the men and another for the women; the patients pass from these as required into a very large lofty room, which is lighted by two bow windows extending nearly from the floor to the ceiling. The surgeons sit at desks with their backs to the light, and see all their patients in this room. Against the walls are suspended some of Jaeger's and Snellen's test types, with which to test patients' sight for distance. Boxes containing convex and concave lenses are placed on ledges under the windows. These glasses are numbered according to their focal distance, instead of being arbitrarily numbered as is usually the case at opticians'. Boxes of glasses thus numbered are to be got at Doublett's, of Moorgate. street, or at Pillischer's, Bond-street.

A short passage (which serves also as a waiting-room for patients who

are to have their eyes examined with the ophthalmoscope) leads to the opthalmoscope room. This is a dark, gloomy-looking chamber, which has no window in it; its walls are papered black, and it is divided into five compartments, each of which forms what we may call an ophthalmoscope box. Each compartment contains a table and two seats—one seat for the Surgeon, the other for the patient. The necessary light is obtained from an argand gas burner at the extremity of a jointed arm, so that the light can be moved up or down, or from side to side.

Besides the obvious necessity for such a lamp in Ophthalmic Hospitals, we think it most desirable that there should be in every physician's out-patient room of our general Hospitals a gas lamp for ophthalmoscopy and laryngoscopy. We may here digress to mention the kind of apparatus the use of which we advise. A lamp giving a bright light, and admitting of easy movements both perpendicular and horizontal, is required. As fulfilling these conditions most conveniently, we recommend an argand gas burner of porcelain, the jets of which are exceedingly small and very close together. The burner should be supported by a double armed gas bracket, admitting of horizontal and of vertical movements. The horizontal action is very commonly seen, and the arrangement for effecting it is easily made, but the perpendicular movement requires a rack apparatus to oppose the tendency of the arm to sink. This rack runs between the two tubes which constitute the attached arm of the bracket, and though desirable even when no lens is employed it becomes absolutely necessary when a condensing apparatus is fixed at the free extremity of the bracket—as is the case in laryncoscopy. A lamp of this kind is in use in the out-patient department at the London Hospital, and it is found to be very useful. There is a gas-lamp for the ophthalmoscope in the room adjoining the operating theatre of this general Hospital, in which room lectures and ophthalmoscopic demonstrations are sometimes given by the Surgeons. We learn that at the Leeds General Infirmary much ophthalmoscopic work is done in the Medical out-patient-room. We know of but one large metropolitan Hospital in which there are conveniences for this kind of clinical investigation. There is a gas-lamp in the out-patient room at the National Hospital for the Epileptic and Paralysed, and the ophthalmoscope is frequently used as a means of investigation. But in general Hospitals, as we have already remarked, ophthalmoscopic work in the wards is even more important, and here a paraffin hand-lamp is perhaps the best that can be employed. Before we end this digression, we may remark that a good portable lamp—one that can be carried to the homes of poor patients—is a desideratum.

Adjoining the ophthalmoscope room is the room which contains the

Hospital library of ophthalmic works and plates, and also the museum, in which are many valuable preparations showing different changes in the eye. Most of these preparations have been put up by Mr. Bader, the curator.

As the want of additional room has been much felt, the Committee have, during the past year, covered in which glass two small yards, converting them into rooms, in which notes can be taken of cases, and in which minor operations can be performed.

For some time the Committee have had under consideration the question of enlarging the Hospital by building a new wing, and a sum of money has already been collected towards defraying the expense, but hitherto the work has not been commenced, partly on account of the present site being possibly required by one of the railways.

Besides the Consulting Physician, the Physician and the consulting Surgeon, the staff consists of four Surgeons and five Assistant-Surgeons, who attend the Hospital twice a week each. To assist them and to take notes of particular cases, Clinical Assistants are nominated by the Medical board, and on the approval of the committee are appointed for a year, but are eligible for re-election. They are selected from the pupils of the Hospital, and during the term they hold office, have an opportunity of becoming intimately acquainted with diseases of the eye and their treatment. The practice of the Hospital is attended by a good number of students from the metropolitan Hospitals. Yet it is a matter of great surprise to us that more students do not attend the practice. Here they can learn to diagnose and to treat diseases of the eye very accurately, and they can get their knowledge quickly. In those Hospitals where there are special eye departments this attendance may not be necessary, but for students at those schools where there is no one appointed to teach diseases of the eye, a visit to some special Hospital is a matter of necessity for completeness of Medical education.

A great many Practitioners from the country, as well as Medical men from various parts of the world, avail themselves of a visit to London to add to their knowledge of ophthalmic science.

About three years ago the surgical staff instituted evening demonstrations with the ophthalmoscope; these are held once a week, on Fridays, whilst the course lasts. Arrangements are made with a few patients to attend on these evenings, the cases selected being typical of certain forms of disease. Besides the examination of the eyes, there is a short lecture by one of the staff.

These demonstrations are becoming more and more numerously attended. Many practitioners and students, who are prevented by their other

occupations from attending in the morning, avail themselves of the opportunity thus offered to make themselves practically acquainted with the use of the ophthalmoscope. The demonstrations have been conducted by Messrs. Wordsworth, Streatfeild, Hulke, and Hutchinson, and lectures have been given by each of these gentlemen.

It may be useful to some of our readers who have no opportunity of visiting the Hospital, to inform them that the staff issue a publication called the "Royal London Ophthalmic Hospital Reports," which contains papers by themselves and by other ophthalmologists, and also by physicians and others who are not ophthalmologists. This publication, like its fellow, the *Ophthalmic Review*, is a very useful one, and is very ably conducted. It may be well to say that it is in no sense a commercial venture; on the contrary, we believe it devours the whole of the fees from the pupils the staff would otherwise receive. It contains usually papers of a general as well as of a special interest. By the expression of "general interest" we do not mean that any of the papers are not on eye subjects, but that some of them have an interest far beyond ophthalmology. We may instance Hulke's papers. "On Retinal Degeneration in Bright's Disease," and Hutchinson's recently published cases of herpes zoster about the eyelids.

Considering that there are several eye Hospitals in London, and that many of the general Hospitals have established an ophthalmic department, it is somewhat startling to find the large attendance of patients at this single institution. Last year over 16,000 new cases were registered, involving nearly 80,000 attendances. Many of the patients come up by railway from the neighbourhood of London, but some come from distant counties. We heard of one man some time ago who walked all the way from Wales to have the advice of one of the Surgeons. He intended to walk back, but he was enabled by a grant from the Samaritan Fund to return by rail.

Every now and then people apply for relief who are able to pay for Medical attendance. Once a patient was discovered to be a lady, who came in her carriage, but left it in Finsbury-circus. This is, no doubt, one of the evils of special Hospitals. Persons think that they will get better advice at these institutions than from their ordinary Medical man; and though they may give a handsome donation to the funds of the institution, they forget that they take up the time that the Surgeon only intends to devote to the really indigent. This last phrase—REALLY INDIGENT—is printed in bold type on the heading of the Hospital letter, but these words do not stare out of countenance many patients who come in silk dresses. But the evil is not confined to special Hospitals.

The House-Governor of a large general Hospital told us the other day that "ladies" used to send their servants to secure and keep for them early places in order that their own valuable time might not be wasted in waiting for the Assistant-Physician or Surgeon. He believed, however that the Committtee had put a stop to that practice.

From the House-Surgeon's report we find that about a quarter of the patients are affected with diseases of the conjunctiva. One form of ophthalmia which is very prevalent seems to be the same that affects our army and large bodies of people, like workhouse schools. It is encouraged by over-crowding, bad feeding, and by many using the same towels; constantly various members of the same family are patients, and many of the children catch it at school from their playmates. We have mentioned ophthalmia rather to speak of its effects than to make any observations on the disease itself. The treatment of the condition known as pannus, produced by a granular state of the lids following ophthalmia, is one of the great advances recently made in Ophthalmic Surgery. The condition of a patient thus affected is very pitiable. He would, perhaps, be strong and healthy, but is debarred on account of blindness from earning his living, and many a soldier has been discharged from the army in this state with a blind pension. Since the introduction of the treatment of such cases by inoculation many have been restored to fair sight who thought themselves hopelessly blind.

The matter for inoculation is generally obtained from children suffering from ophthalmia neonatorum. The effect is more severe if the matter be taken in the early stage before treatment than in a later, after lotions have been used. Thus the Surgeon is able to set up a more or less severe inflammation, as he thinks best. Gonorrhœal matter is sometimes used instead. There is some danger that the inflammation produced by inoculation may be so severe as to cause perforation of the cornea; but in Mr. Bader's report on the cases inoculated from October, 1857, to October, 1862, he states that out of 170 inoculated eyes two corneæ only were entirely lost, and but ten became perforated during suppuration. Those who attend the Ophthalmic Hospital may sometimes see there a man who was some years ago discharged from the army as incurably blind. Mr. Critchett inoculated this patient's eyes, and he became able to see to read and write. In consequence of old corneal opacities, which inoculation will not affect, Mr. Critchett had also to make him an artificial pupil. Where the structure of the cornea is normal, the results are sometimes most brilliant. A short time back we saw an old patient who came to show himself. He had formerly been led to the Hospital as a blind man. His eyes were inoculated, and now they appear

as healthy and sound as possible. All the granulations have disappeared, and the palpebral conjunctiva has the pale colour of health.

As inoculation can only be used where the cornea is entirely vascular, another method is now frequently employed in cases of partial pannus. This is called Syndectomy. The operation consists in removing a tolerably broad ring of conjunctiva and subconjunctival tissue from round the cornea, so as to cut off to a certain extent the supply of vessels to the cornea. If benefit does not result from the operation, it seems to be of use in lessening the intensity of the inflammation if the eye be afterwards inoculated, and it reduces the danger of perforation of the cornea. Syndectomy was introduced by Furnari, of Paris. He gave an account of this operation in 1862 (*Gaz. Médical*).

We find that the most numerous classs of patients that attend this Hospital, next to those of diseases of the conjunctiva, are injuries to the eye. Upwards of 1000 of these were treated during last year. Mr. Lawson, in a paper published in the reports of this Hospital, has pointed out that the mechanics in and around London who suffer most severely from injuries to the eye are engineers and boiler-makers, and that a large number of these accidents might be prevented if the men could be persuaded to wear protectors made of plate-glass. Though often only particles of metal are lodged on the cornea, yet not unfrequently the globe itself is penetrated, and damage more or less irreparable is done. If the fragment has buried itself in one of the deep structures, there is great danger of the other eye being affected and destroyed by sympathethic ophthalmia, unless the injured eye is removed.

We saw an interesting and typical case of this class of injury at the Hospital the other day. The man was struck on the eye by a piece of metal; the particle penetrated the cornea, and wounded the lens. As it was doubtful whether there was any foreign body in the eye, an attempt was made to save it. The lens became cataractous, and was removed. Subsequently, a low form of inflammation came on, and symptoms of sympathetic ophthalmia appeared in the sound eye. This showed pretty clearly that a foreign body was lodged in the eyeball, and the globe was accordingly excised. On a section being made a small fragment of metal was found buried in the ciliary processes. Three weeks after the operation all sympathetic irritation had left the sound eye, and the man, who before could only read No. 4 of Jäger's test-types, could read No. 1.

Sometimes cases are seen in which the eye narrowly escapes being lost. Some time ago a man came to the Hospital for a wound of the conjunctiva. On examination, a large piece of iron was found lying between that structure and the sclerotic. The force had evidently not been suffi-

cient to make it penetrate the globe, but enough to make an opening in the conjunctiva, and to enable it to travel a little way beneath it.

The variety of cases of accidents that come under treatment are very numerous. In some the surface of the eye is damaged, perhaps by molten lead, by lime, or from the explosions of gunpowder. In others the globe is ruptured, or the lens is dislocated, by a blow. Injuries are too commonly seen from the flying off of pieces of gun-caps made of inferior metal, and especially those used in firing at targets for nuts.

A large number of patients are admitted into this Hospital who are suffering from cataract. Last year 283 eyes were operated on for this affection, and the record of the method of treatment is interesting. It is as follows:—

By extraction by large flap	29
Ditto, with iridectomy	8
By extraction by traction instrument, with iridectomy .	152
" " curette (soft cataract)	15
" " suction instrument	38
By solution	41

By this we see that the traction operation is very largely practised. Modifications have been made in the original method known by the name of Waldau's (Schuft's) operation. Mr. Critchett and Mr. Bowman have each altered the shape of the spoon. In Mr. Critchett's instrument, instead of having a lip all round, the end only is slightly recurved, so as to be somewhat slipper-shaped. It has the advantage of passing more easily behind the lens, and it does not take up so much room as the original instrument.

Mr. Bowman has introduced two modifications, which he thus describes in the *Hospital Reports*. In one "the body of the spoon is very nearly flat from side to side, a little concave forwards from end to end, and the incurvation of the end is, in fact, a continuation of this concavity, though inclined to it at an obtuse angle. Where the end joins the side of the spoon, this incurvation gradually ceases, and the sides, except towards the end, have no edge above the general level. The whole is as thin as possible consistent with due rigidity, and the breadth about half or a third that of the lens."

The second form "is nearly flat from side to side, and but slightly concave from end to end. The end has a very thin, though not sharp edge, only slightly incurved, and the concave surface at the end is roughened by transverse lines." This instrument Mr. Bowman considers preferable where, from the entire absence of soft surface matter,

there is the least room for the insinuation of an instrument between the lens and its capsule. In other cases the former spoon is suitable.

Recently we have seen Mr. Bowman remove with a syringe any circumferential matter that has been left after the extraction of the nucleus, if the matter be soft enough. By this means he saves the frequent introduction of the spoon, and so lessens the danger of bruising the iris.

The results of the traction operation seem to be very good, and many eyes that would be unfavourable for the old flap extraction are successfully treated in this way. Moreover, it is a boon to be able to administer chloroform, which is unadvisable in the old method on account of danger to the eye in case of vomiting.

Soft cataracts are frequently removed by the syringe after they have been broken up by a fine needle. This method has partly superseded the old plan of treating them by solution or linear extraction. The suction instrument used is a glass syringe, to which is adapted a tubular curette. The Profession is indebted to Mr. Pridgin Teael, jun., of Leeds, for this useful addition to our means of dealing with cataract.

Among the operations most frequently performed is iridectomy. This is done in some cases of inflammation affecting one or more of the structures of the eye—as corneo-iritis, choroido-iritis, or recurrent iritis. Artificial pupils are sometimes made in this way, and sometimes by the method introduced by Mr. Critchett and called iridesis. In this operation a piece of the iris is drawn out, and is secured by a small ligature of fine silk instead of being cut off with a pair of scissors. Recently we saw Mr. Bowman make an artificial pupil in a slightly different way from either of these operations. He punctured the sclerotic with a broad needle about a line from the margin of the cornea, and then passed it into the anterior chamber very obliquely, thus converting the opening into a small canal. He then drew out a piece of the iris with a blunt hook, and left it in the wound instead of cutting it off or ligaturing it. The result was very good. In his observations afterwards he said that this was merely an old method modified by making the incision very oblique.

A large number of cases of glaucoma are treated by iridectomy. Probably no mode of treatment has excited more discussion than this, and it is strange that the *rationale* of its effects has not been satisfactorily explained. To produce a good result, two points have to be carefully attended to—1st, to remove a large enough piece of the iris; and, 2nd, at the same time to take away its whole breadth, thus including its ciliary border.

In acute glaucoma, iridectomy seems like a specific in arresting the disease and restoring the patient's eye to sight. Such good results are not expected in the more chronic forms of glaucoma, but these are usually more or less benefited if the operation is done early enough; at any rate, it reduces the tension to a normal standard, stops the further progress of the disease, and even if improvement does not take place in the amount of vision, it is found generally to preserve for the patient what he had at the time of the operation, which otherwise would have been gradually extinguished. It is not found advisable to operate on glaucomatous eyes that have been lost some time, as there is great danger of hæmorrhage occurring between the choroid and sclerotic, and there is no hope of restoring any sight. Such eyes, if painful, are generally excised.

Some cases of detached retina have been treated by puncture, as proposed by Professor A. von Graefe.

The site of the detachment is previously made out accurately by the ophthalmoscope, and then a fine needle, such as is used in the operation for congenital cataract, is passed through the sclerotic into the vitreous chamber at the spot. A second needle is then introduced at a little distance from the first; the handles are now made to cross each other; by this means their points are seperated, and a larger opening is made in the retina. On withdrawing the needles, a small quantity of the subretinal fluid may be seen escaping from the punctures under the conjunctiva. At present a very large number of these operations have not been done, but in several cases marked improvement has followed.

A great many patients apply on account of strabismus. In a large majority of these the strabismus is convergent, and the truth of Donder's observation that this form of strabismus is due to hypermetropia is constantly verified. Until Donder's investigations, squinting was frequently ascribed to irritation from worms, from cutting of the teeth, etc. Usually the operation that is adopted in these cases is that which has been called the Moorfields operation, in which the tendon is divided subconjunctivally through a small opening in the conjunctiva at its lower border. This operation was introduced by Mr. Critchett. Occasionally Graefe's method is employed instead. Here a small conjunctival opening is made over the tendon, and the hook that is used has a shorter curve and a bulbous extremity. Both eyes are operated on, or only one, according to the amount of convergence.

These operations are a great improvement on the old plan of dividing the tendon through a large incision in the conjunctiva; this was often followed by a sinking in of the caruncle and divergence of the eye from excessive retraction of the divided tendon, which attached itself to the

globe far back. Such cases come every now and then to the Hospital, and are greatly improved by a re-adjustment operation, which is done in the following way:—

A vertical incision is made in the conjunctiva, a little distance from the inner margin of the cornea; a flap is dissected back towards the caruncle, and is made to include the tendon; a piece of this flap is then cut off, the size being regulated according to the amount of the divergence; this being done, the edges of the wound are brought together by four silk sutures, care being taken that the tendon is included in these by the needles being passed through it; they are also made to take up the outer piece of conjunctiva close to the cornea; all the sutures are passed before either of them is tied, and whilst this is being done, the eye is rolled inwards by a pair of forceps by an assistant. By this operation the tendon is attached to the globe more forwards, and the general appearance of the patient is much improved.

Great advances have been made in the treatment of other affections of the eye besides those we have alluded to in these observations, and it is since the invention of the ophthalmoscope than an exact diagnosis has been possible in cases in which the cause of the defect of sight was formerly more or less obscure, and especially in those diseases which used to be vaguely classified under the name of amaurosis.

The frequency of ophthalmic diseases should induce the various examining boards to require from their candidates proof, at least, that they have attended a three months' course of special ophthalmic practice, and so have made themselves acquainted with the ordinary diseases of the eye, and have learned to use the ophthalmoscope. We repeat that it is simply impossible for ordinary students to learn enough of ophthalmology for practical purposes unless they learn in a special department in their own general Hospital or at some ophthalmic Hospital. We hope that each of the large Hospitals will soon establish ophthalmic departments and eye wards.

We hope in a few weeks to give a further report from this Hospital. We shall then relate cases, in more detail, from the practice of each of the staff.—*Medical Times and Gazette.*

PARALYTIC ECTROPIUM SUCCESSFULLY TREATED BY OPERATION.

By Haynes Walton, Esq., Surgeon to the Central London Ophthalmic Hospital, and to St. Mary's Hospital.

Ectropium, or the turning out of an eyelid, is certainly one of the serious affections of the ocular appendages; but it is by no means so com-

mon as the opposite state, entropium, or the turning in of the lid. In aggravated cases, and especially when both eyelids are everted, the eyeball may suffer from exposure and want of necessary moisture. In the ordinary, or less severe states, and where only one eyelid is everted, disfiguration and flowing of the lacrymal secretion over the cheek are the immediate evils. But in every degree there is a remote risk of injurious effects of inflammation of the eyeball, from inability of the eyelids to wipe off or brush aside intruding particles. The exposed palpebral conjunctiva is always unnaturally and highly vascular, and so is frequently the ocular also.

The causes of ectropium may be referred to three classes. The first class includes abscesses about the orbit, usually at the circumference; burns, scalds, chemical injuries, ulcerations, either simple or specific, as from syphilis, lupus, slounging after erysipelas, wounds, contusions, and surgical operations.

The second class includes eversion from disease, and thickening of the conjunctiva without tarsal disease.

The third class is ectropium from palsy of the portia dura—hemiplegia fascialis, by which the orbicularis palpebrarum muscle, among those that are palsied, no longer acts, and the power of closing the eye is lost; the upper eyelid cannot be depressed, while the lower falls down and turns outwards, becoming more everted in process of time. There are degrees of the paralysis here, just in fact as is witnessed in paralytic affections in other parts of the body.

The paralytic ectropium, the only one of which I shall treat, is the rarest of all. I am induced to make it the subject of a short communication, because I have lately treated a marked example most successfully by operative surgery; and I am not aware of any recorded instance of similar practice; nor do I know of any case having been so treated.

A gentleman, aged 24, was sent to me by Mr. R. Reid, in January of this year, on account of a distressing and increasing ectropium of the left lower eyelid from facial paralysis on that side, which occurred in childhood. It is unnecessary to speak of the condition of the face. The ectropium produced much deformity, as the margin of the eyelid was very much depressed, and the conjunctiva was thickened and projecting, and very vascular. But a more annoying result was the constant flow of tears and mucous secretion over the cheek, roughness of the skin, and some excoriation.

After a short examination I was convinced that I could render essential benefit, and my patient readily assented to my proposal of treatment.

Chloroform having been given, I removed a strip of the diseased con-

junctiva along the entire length of the eversion; and I may mention that I effected this by making two incisions with a scalpel, in the form of an ellipse, and dissecting away the isolated bit. It is by the contraction that ensues from this loss of substance that the eyelid is braced up, and in ordinary cases of ectropium I generally excise as much of the conjunctiva as is permanently exposed, and that effects the desired end. But here the lengthening of the tarsus, and the total loss of muscular support to it, required something more to be done; and also, the undue raising of the upper eyelid was another obstacle to success. To overcome these complications, I shortened both tarsi by removing a portion of each at the outer canthus, taking away conjunctiva as well, and brought the wound together by stitches.

It is not necessary to give a detailed account of the progress. It will answer every purpose merely to tell that the repair was rapid, and as effectual as it was possible. The eyelids are nicely bound up, and the stare arising from the prominence of the eyeball, and the exposure of it is almost overcome; so little indeed remains, as not to be noticed by a casual observer. The punctum lacrymale in each eyelid having been returned to its proper position, the tears are thoroughly conveyed away through the proper channels. Withal, there is no trace nor mark of the use of the scalpel.

Absence of Kidney.—Mr. W. Symonds of Ross (*Lancet*) examined a man who had died from typhus, and found entire absence of the right kidney, athough the right suprarenal capsule was then natural and healthy. The left kidney weighed 7½ ounces, and was healthy.

CASE OF HERPETIC ERUPTION IN PART OF THE DISTRIBUTION OF THE SECOND DIVISION OF THE RIGHT FIFTH CEREBRAL NERVE.

By James Paget, F.R.S.

A wish expressed by the editor of the Journal for the publication of cases of this kind induces me to offer the following. I attended the patient in consultation with Mr. Tayloe of Clapham.

A gentleman, between 25 and 30 years old, in good general health, was twice exposed to severe cold on October 22nd, and in the evening had a slight shivering, and some pain as of neuralgia in the right side of his face. Next day, he felt pretty well; but the neuralgic pain was severe, and gradually increased. Morphia was taken for its relief.

On October 25th, the right side of the face was much swollen; and there appeared on the right side of the upper lip and of the nose, and on

the right cheek, a copious herpetic eruption. At the same time, numerous small white blisters appeared on the right half of the roof of the mouth and the adjacent part of the gum and cheek. The pain at this time was very severe; it reached "from the lip to the eye," and was attended with twitching of some of the muscles of the face. The patient's general health was not greatly disturbed.

The eruption, after passing through the usual stages of herpes, began to fade about November 5th, leaving thick dark scabs, like those of declining confluent variola. On the hard palate, in the place of a scab, was a thick layer like a diphtheritic membrane. The crust and the membrane cleared off in about a week, leaving the surface of the skin dusky red and deeply scarred and pitted. The swelling of the skin and of the mucous membrane, which had coincided with the eruption, gradually with it disappeared.

On November 18th, twenty-six days from the commencement of the disease, one of the bicuspid molars of the right side of the upper jaw fell out; on the next day, another; and in a few days later, the canine and both incisors. They all appeard to have been sound till the time of their death and separation. The loss of the teeth exposed a corresponding dead portion of the alveolar border of the jaw, which separated and was removed on December 5th. It included the sockets of all the teeth that had been lost. After this, all the structures that had been diseased healed, and no harm remained, except some disfigurement by the scars.

In the case just related, the herpetic eruption was arranged in exact coincidence with the surface-distribution of the infraorbital, anterior dental, and anterior palatine branches of the right superior maxillary nerve (second division of the right fifth cerebral nerve). It agreed with all the cases that I have seen of unilateral herpes arranged on the plan of branches of the fifth cerebral nerve, in that the eruption was preceded by extremely severe pain like that of tic. It equally resembled those cases, and was unlike the herpes zona or shingles, which is arranged according to the distribution of spinal nerves, in that the eruption was followed by well-marked pitted scars. It is, so far as I know, unique in having necrosis as a consequence of the intense inflammation of the palate and gum.

To the wish of the editor, with which I have thus complied, I would add another: that some good observer would collect and study all the cases in which the plan or process of organic disease is manifestly determined, as in these cases of herpes, by disease or injury of cerebro-spinal nerves or nervous centres. Much as the subject has been argued, a work of this kind seems greatly needed. To some, the facts that healthy

nutrition may go on in parts whose nerves are all divided, and that organisms and textures void of nerves are nourished as well or as ill as any others, seem enough to prove that nerves have nothing to do with the matter. To others, half pathology is "nervous."

Well-collected cases might settle this difference, and determine what is the true range of the influence of disturbances of cerebro-spinal nerve-force upon organic processes. It is certain that nutrition may go on in a total privation of nerve-force, such as we suppose in a part completely separated from nerve-centres by division of its nerves; but a question not fully answered is, in what degrees and manners nutrition may be affected by disturbances of nerve-force.

The best collection of cases useful for the inquiry is in the admirable work on *Gunshot and other Injuries of Nerves* by Dr. Mitchell and his colleagues in the Military Hospital of Philadelphia. And for a contribution, however small, I add this case.

A gentleman, after many years marriage, became subject to herpes of the glans after every sexual intercourse with his wife. He suspected her, and for several days lived apart from her. Then, one night, he had a seminal emission during sleep; and on the following morning found the usual herpes; the result, I suppose, of an excited nerve-force.

Midwifery and Diseases of Women and Children.

POST-PARTUM HÆMORRHAGE ON THE ELEVENTH DAY AFTER DELIVERY. DEATH.

By John Homans, Jr., M.D., Boston. (Communicated for the Boston Medical and Surgical Journal.)

Mrs. McS., a resident of Charlestown, a strong and very fleshy woman, 43 years of age, expecting to be confined in January, 1867, was seized with convulsions on the 11th of the presenth month. She had miscarried once, and had borne eight living children, so that she was now in her tenth pregnancy. Her previous labors had been short and easy, lasting about two hours, and on the fourth day after her confinements she had resumed her household duties; but, before her last baby was born, her lower extremities had been swollen, and she had had a "fit" after delivery. During her present pregnancy she had been perfectly well, except that her hands had at times felt numb. On the morning of Dec. 11th she went to Boston, feeling perfectly well; she made some purchases in the city, and came home in the afternoon. Soon after her return, about four o'clock in the afternoon, she went to her room, lay down on

her bed, vomited and became convulsed. A physician was called, and she was bled, losing at the time of the bleeding and subsequently about a pint and a half of blood. I saw her at 11, P.M., and was informed that up to that time she had had seven fits. Between the time when I arrived and noon of the next day she had seven more fits, some of them very severe, biting of tongue, &c., &c., followed by stertorous breathing. Her urine was found to be highly albuminous, and contained many granular and waxy casts of the tubules of the kidney. Ether was administered, and controlled the convulsions in a measure. The labor pains were feeble, the os dilated very slowly, and at 9, A.M., Dec. 12th, was the size of a dollar, and hard. Warm water was thrown into the cavity of the uterus through a catheter passed by the side of the child's head, and half an once of castor oil was given by the mouth. The oil operated freely during the afternoon. She had been wholly unconscious since the first convulsions, but could swallow. At five o'clock in the afternoon, the os being well dilated, the pains being insufficient to expel the child, the head not yet having entered the pelvis, and there being no prospect of its doing so, the long forceps were applied. Delivery of the child (the sounds of the fœtal had not been heard for fourteen hours) was safely accomplished. The placenta followed twenty minutes afterwards, the uterus contracted firmly, and there was no hæmorrhage.

Dec. 13th.—Is recovering her senses, and recognizes those around her. Pulse 100, soft. Urine, drawn off, is albuminous, and contains casts.

14th.—Is improving. No flooding. Urine still contains casts, albumen, and many crystals of uric acid. Ordered to remain in bed. Has some diarrhœa: to take Dover's powder. Abdomen natural to the feel.

16th.—Is perfectly herself; voice quite hoarse; does not remember events of the last three weeks. Urine slightly albuminous; no casts could be found.

22d.—Feels very strong, and has with difficulty been persuaded to keep her bed; has a good appetite; digestion natural. Urine contains a *trace* of albumen; no casts, and many healthy pus-corpuscles.

On the morning of Dec. 23rd I was called to visit her, but found her dead. I learnt that she had come down stairs during the afternoon of the 22nd, feeling very strong and well. While she was sitting in the kitchen, a boy was brought in who had fallen through the ice of a neighbouring pond. Mrs. McS. was very much agitated and alarmed at the sight. She retired to bed at 6, P.M., and at 8½ flooding suddenly occurred to an alarming degree, and caused much exhaustion. A neighbouring physician was called, who prescribed, and the flooding ceased. A

second attack came on some two hours afterwards, and patient died at 3½, A.M., Dec. 23d. I was summoned, but the messenger did not reach me till after the death of Mrs. McS. No autopsy was made.

I can find in the obstetrical works and essays which I have examined, but *one* case in which *post-partum* hæmorrhage occurred *ten days* after the expulsion of the placenta. Dr. Collins states that during his Mastership of the Dublin Lying-in Hospital, a period of seven years, among 16,414 cases of labor there were but *forty-three* cases of hæmorrhage *subsequent to the expulsion of the placenta.* Of these, but *three* occurred later than *twelve hours* after the expulsion of the placenta. One was on the *fourth day*, one on the *fifth*, and one on the *tenth.* The case above described occurred on the *eleventh.* The woman referred to by Dr. Collins as having hæmorrhage on the tenth day. " had frequent discharges of blood from the uterus for the first ten days, and on the tenth, the discharge becoming profuse, some coagula were removed from the cavity of the uterus, and the discharge ceased." The sudden occurrence of fatal uterine hæmorrhage, as late as the eleventh day after the expulsion of the placenta, without previous warning, and when the patient might fairly have been called well, seems to me extraordinary.

December 24th, 1866.—*Boston Medical and Surgical Journal.*

Medicine.

ON THE TREATMENT OF RHEUMATIC FEVER.

By J. Birkbeck Nevins, M.D. Lond., Liverpool.

At a time when there appears to be a growing tendency to consider that it is a matter of indifference whether anything at all is done in rheumatic fever, except to keep the patient quiet in bed and supply moderate nourishment, I propose to lay before you a plan of treatment which I have adopted for many years, with the general result, as it has appeared to me, of: 1, speedily relieving the patient's most urgent symptoms; 2, shortening the general duration of the case; and 3, securing restoration to strength with less tendency to heart-complications or relapses than usual.

I shall illustrate the general features of the treatment by relating very briefly the last case treated in this manner, which occurred last month, and therefore has the advantage of not being a selected one, but merely the last under observation.

The fundamental principle to be attended to is the one pointed out by Dr. Herberden above a hundred years since, when he recommended the

employment of cinchona, in consequence, of the resemblance between rheumatic fever and ague, as shown in the rigors, hot and sweating stages in both diseases, and the tendency to periodicity observed in the nightly exacerbations of rheumatic fever; and, acting upon this analogy, he recommended the employment of cinchona in the treatment of rheumatic fever as well as of ague. Since his time, this remedy has been used from time to time; but it has not taken the firm hold upon the profession which it deserves, in consequence of the omission of various adjuncts, which it will now be my object to lay before you, as they were employed during the progress of the case to be related.

Case. W. J., aged 45, a delicate looking man, steward of a steamship, had been suffering from rheumatic pains for a fortnight, but had gone about his work with difficulty until two days before his arrival in Liverpool, during which he was confined to his berth, unable to help himself in any way. He was carried on shore, and I saw him in the evening. He was unable to turn in bed, or to move hand or foot, except his left hand a little, though even that was acutely painful. He had no sleep for two days or nights; tongue furred; lithates in urine: pulse moderately excited, but no distinct heart-symptoms; not much sweat.

Treatment. He was immediately ordered a vapour-bath of vinegar, with subsequent cold douche in bed, and ten grains of Dover's powder, which was followed by two hours of sleep, and such abatement of pain, that he said he was easier the next day, though still unable to move his limbs or to turn in bed. He was also at once ordered two grains of quinine and five grains of iodide of potassium, to be taken four times a day. He had, on a subsequent night, a second Dover's powder, and this was all the opiate taken during the illness. The opium, therefore, formed a very insignificant part of the treatment; and this I have found to be the case almost without exception.

The remedies to which I attach importance are:

1. The vapour-bath, and subsequent cold douche; and
2. The combined quinine and iodine.

In this case the bath was given in bed, for the patient could neither turn in bed nor move his limbs; and it will generally be necessary to give it in bed, in the first instance, in any case deserving the name of rheumatic fever; and it is so easily administered, that no difficulty can arise to prevent its employment in every case.

Two large pieces of coarse flannel (common scouring cloths answer the purpose admirably) are to be soaked in common vinegar; about a pint being necessary for each cloth. Two common bricks are then to be heated nearly red-hot in the fire, folded up in these flannels, and placed on

two plates. The patient being stripped, one plate is to be put a little distance from one knee and the other a little distance from the opposite shoulder, and the patient is to be covered over with the bed-clothes. In a few minutes, he is surrounded by a most refreshing steam-bath, which produces a warm, agreeable perspiration, that may be kept up for twenty minutes or longer, if the bricks retain their heat sufficiently.

As soon as it is decided to remove them, the patient, still in bed, is to be very rapidly mopped all over with towels wrung out of cold water, then immediately wiped dry with dry towels, supplied with a warm shirt or flannel garment, and covered with a fresh dry sheet, etc., or with blankets alone, as may be most agreeable to him.

The effects of this bath are a speedy relief of the acute pain, and frequently easy sleep for a time; an abatement of the offensive and distressing acid sweats; and a general state of greater comfort.

The cold water application immediately on the removal of the hot vapour is very important; as it prevents the continuance of an enfeebling perspiration after the hot bath.

The manner of removing the patient's bed garment is a point of importance in cases of such painful helplessness as rheumatic fever; and it is accomplished without pain to the patient or difficulty to the nurse by an extremely simple contrivance. The clothes must be torn down the back from top to bottom; and when this is done they can be removed and replaced as easily as a child's pinafore, without even lifting a limb of the patient or disturbing him in bed. By this means, fresh, clean, dry clothing can be applied without difficulty once or twice a day, according to the amount of sweating; and the sufferer is relieved from the discomfort of his damp, offensive garments.

This bath may be repeated twice a week; and during seventeen years that I have been in the habit of adopting it, I have scarcely ever had to use it a third time in bed; the patient, after the second bath, being almost invariably able to sit up and have the third in a chair.

When he is able to sit up, a steam-bath can be given with great ease by putting a bucket of boiling water under a chair, the seat of which is sufficiently protected to prevent the patient from being scalded, whilst he is sitting upon it surrounded by blankets; and, by putting a red-hot brick into the water in the course of ten minutes, the steam is kept up, as by this time it generally begins to abate from the original boiling water.

A jug of cold water may be poured over the patient when the blankets are removed, or he may be wiped by cold wet towels, as is most agreeable to his own fears or feelings, and he must then be clothed and sit up for a few hours.

The second part of the treatment upon which stress is laid, is the combination of moderate—*i. e.*, two grain doses of quinine with five grain doses of iodide of potassium from the first. The theoretical grounds on which quinine was first proposed have been already mentioned; and the general experience of the profession will suggest the explanation of the probable benefit to be looked for from the addition of the iodide.

We will now return to the history of the case.

After using the bath and taking the Dover's powder, he slept two hours, and was easier.

Second day of treatment—Tongue rather dry. Two glasses of wine daily in addition to his medicine.

Fourth day—Sleeps moderately, and takes food moderately. Very uneasy from lying so long unable to turn in bed. Can move one arm a little. Repeat the vapour-bath, and continue the quinine and iodide.

Next day—fifth—Can sit up in bed, and move his arms so as to change his night-shirt in the ordinary way.

Seventh day—Walked down stairs, with a little help.

Tenth day—Had a steam-bath in his chair.

Eleventh day—Walked a mile and a quarter.

Twelfth day—Went down to the office.

Sixteenth day—Called upon me just before going to sea.

Such is an outline of the plan of treatment which I have practised habitually for the last seventeen years. During this time, the cases have been numerous which have been thus treated; and the results have been so satisfactory, that I have always returned to this method, although I have given a fair trial to the alkaline and to the lemon-juice treatment. I have not tried the do-nothing method; nor have I ever relied upon opium alone; and bleeding and mercurials I have no experience of.

During this period, I have only had occasion four times to apply a blister for heart-symptoms; and there has not been any instance of troublesome cardiac affection. What has become manifest on these four occasions has readily yielded to slight blistering, and a continuance of the quinine and iodine.

When the disease previous to admission has been of a more chronic or frequently repeated character than in the case above related, the improvement has not been so rapid as to amount to complete recovery in a fortnight; and where there is much gouty complication, the case will probably be more lingering. But, after endeavouring to ascertain without partiality what method of treatment is most beneficial to the patient suffering from rheumatic fever, I am increasingly impressed with the conviction that the plan now advocated possesses the advantage of—

1. Relieving the patient's suffering most speedily, both as regards pain, loss of rest, and sweating;

2. Of most quickly restoring the patient to strength, for it is extremely rare for him to be confined to bed more than a week, or to be confined to his room for more than a fortnight; and

3. Of securing extraordinary freedom from heart-complications, or liability to relapses.

[In the discussion which ensued upon this paper, Dr. Falconer of Bath, showed some tracings made by the syphgmograph in some cases of rheumatic fever, which showed that, whilst the power of the heart at the commencement of the attack was generally about equal to the natural standard, it fell as the disease progressed to such a degree as to exhibit, by tracings, a loss of nearly half its strength. He thought that this loss of muscular power in the heart might account for those cases in which the patient dies after apparent recovery from rheumatic fever, and yet, after death, there is no apparent disease of the heart discoverable. These observations (which have been carried on by Dr. Falconer without any correspondence with the author of the paper) have a very important bearing upon the plan of treatment advocated in it, the principle of which is directed from the first to supporting the energy of the muscular and nervous system by the administration of quinine, in conjunction with the agents described; which are followed by an early cessation of exhausting pain, sweating, and loss of rest, and a remarkable immunity from heart-affections.]—*British Medical Journal.*

ON THE TREATMENT OF CHOLERA BY STRYCHNINE.

By George W. Balfour, M.D.

Whatever tends to increase our capability of coping with so formidable a disease as cholera cannot be uninteresting to the profession at any time, but must be specially interesting at the present moment, when we are still labouring under an epidemic most severe in its character, if not, as yet, very wide-spread in its dimensions.

The bromides of potassium and ammonium, the chlorate of potass, and the saturated tincture of camphor, have all been tried without any marked success, and have left only the impression that as yet no advance has been made on former plans, and that the best treatment for cholera is still a large dose of opium early enough; and God help those who pass into the stage of complete collapse, for then all human remedies seem alike useless. The treatment, however, which I am about to recommend may be used with great hope of success even in cases of the most complete collapse, and, even where not successful, it relieves the most painful

symptoms—the cramps—and remedies all the worst features of the disease. It is, however, no new and hitherto untried remedy, for it was long ago recommended by M. Abeille, who states that it modifies advantageously and rapidly the phenomena of cholera by its influence on the sensitive nerves. In the algide stage it excited reaction nineteen times out of twenty-three cases, and there were ten recoveries.

Though long lost sight of in this country, strychnine was employed with marked success during a comparatively recent outbreak of cholera in Japan by Assist. Surgeon W. Hensman, of the second battalion of the 20th Regt.; and the attention of my brother, John Balfour, I.C., having been directed to it, he resolved to give it a fair trial in an outbreak of cholera at Leven, Fifeshire, where he is now in charge. He writes me that he has seen nothing which so speedily relieves the urgent symptoms, or gives such hope of snatching many a serious case from the verge of the grave. The cramps soon cease, the purging and vomiting are mitigated, and in those cases in which the pulse has been imperceptible for hours, it is again felt at the wrist, while the complexion changes from the horrible dull-blue tint to the natural healthy colour, the urine being also generally secreted at once. The urgent symptoms are, in fact, immediately relieved, and though it does not cure every case, this treatment holds out a fair prospect of more favourable returns under circumstances more propitious than could be supplied in a small country town of 2,700 inhabitants, with one medical practitioner to attend upon all the cholera patients, no hospital, and a defective supply of nurses. As it is, 15 out of 24 well-marked cases thus treated have died; but many of them would have succumbed under all circumstances, even to a disease less formidable than cholera, as three were between seventy and eighty years of age, two more above sixty, another had long-standing disease both of the chest and womb, and several others were greatly deficient in bodily strength and stamina.

The general plan of treatment adopted is to place hot bottles round the patient and cover him with an ample supply of blankets: a large sinapism is then applied over the whole abdomen, and, in adults, left on for an hour. If the disease be not too far advanced, a drachm of laudanum is then administered (chlorodyne was employed at first, but was found too irritating to the stomach), ice to suck is allowed *ad libitum*, and small quantities of soda water if desired. Should this treatment have a good effect, the patient is conducted to recovery in the ordinary way; but should vomiting recur, or collapse come on, strychnine is had recourse to, a solution being employed containing one grain to the ounce, and of this a drachm and a half to two drachms is given to an adult for

the first dose, and subsequently a drachm every hour and a half or two hours, until the physiological effects of the drug (twitching of the muscles) manifest themselves; these are always accompanied by marked amendment. The subsequent treatment hitherto adopted has been the administration of quinine and nourishing soups in small but increasing quantities. It is believed, however, that the continuance of the strychnine in smaller doses and at longer intervals would be more beneficial in the more dangerous and severe cases. As it is, complete recovery has taken place in many patients in whom the symptoms had been of the most deadly character, the pulse having been in some of them more than four hours absent from the wrist; and in them no stimulants were administered, at least until convalescence had fairly set in.

The type of the disease at Leven has been of the very worst character attended by comparatively little vomiting and purging; as a rule, the cramps not severe; but the patient struck down and sinking as from some overwhelming dose of poison.

The treatment of cholera by strychnine, then, seems to hold out a fairer prospect of success than anything hitherto tried, while it promises two great and eminent advantages: 1st, even where it does not cure, it always relieves the symptoms; and, 2nd, though useful even in the most advanced stages of the disease, its action is not interfered with, but rather assisted, by the previous administration of opium, which the united experience of, I believe, almost all those medical men who have had any experience of the disease has shown to be the most useful remedy in the earlier stages of cholera; for the researches of Brown Séquard, Bonnefin, and others have shown that morphia and opium act on the spinal cord precisely as strychnine does, and, when administered together, one-half of the ordinary dose of strychnine is sufficient to produce the same effects as double the quantity administered without opium. Were I to hazard a theory as to the *modus operandi* of strychnine in cholera, it should be based on this correlation subsisting between it and opium, and I would say that as all the symptoms of cholera collapse point to a cessation of all the acts of vital nutrition, and consequently of the circulation, throughout the frame, wholly independent of drainage by evacuation, and often most marked where there are no evacuations, depending apparently in such cases upon the charge of poison being sufficient at once to overwhelm the nervous system, and thus prevent that reflex action of the sympathetic and cerebro-spinal systems on each other upon which, according to all our present knowledge, these vital acts seem to depend, so then our best hope of cure would appear to lie in some drug which should so stimulate the cerebro-spinal system as to enable it to respond to

the feeble efforts which the sympathetic must continue to exert while life remains. In the earlier stages of cholera, and in less severe cases, opium from its stimulant action on the cerebro-spinal system, is well calculated to attain this end, while its astringent action is rather an advantage in those cases in which the drainage from evacuation tends to be excessive; the hypothetical benefits of elimination being at variance with our practical knowledge of this disease, and manifestly inconsistent with the theory of zymosis and with all that we know of the history of diseases of this class. In more advanced or more severe cases, strychnine, the most powerful cerebro-spinal stimulant known, seems theoretically that agent most likely to be useful, and I think that the facts I have just related warrant my recommending it to my professional brethren as likely under favourable circumstances even to exceed their highest expectations. —*Lancet.*

ON THE TREATMENT OF HEMOPTYSIS WITH INHALATIONS OF LIQUOR FERRI SESQUICHLORATI [SESQUICHLORIDI].

BY DR. P. Q. BRONDGEEST.

Translated from the *Nederlandsch Archief voor Genes-en Natuurkunde*, Deel ii 2e by Wm. Daniel Moore, M.D., Dub. et Cantab., M.R.I.A.

The local treatment of morbid affections of the air passages, by the inhalation of fluids in the state of vapour, has lately been very extensively adopted. In no department can we, however, point to such excellent results as in the treatment of hemorrhage of the respiratory passages by means of styptic inhalations. The most important observations on this subject are undoubtedly those of Fieber, both on account of the fulness of detail with which they are communicated, and of the success with which the treatment was crowned. We fully endorse what Fieber says as to the value of this method: "If the mode of treatment by inhalation by means of pulverisers had," he says, "no other merit than that of rendering possible the direct application of hemostatics to the bleeding points or their immediate vicinity, this would suffice to ensure it an honorable place in therapeutics. Not only is one of the most dangerous symptoms often directly removed by the inhalation of styptics, but the dictates of humanity to free the patient from an affection which renders him most uneasy, and fearfully rouses phthisical patients in particular from the consoling illusion of improvement, which nature lends them to lighten their sickness, are most rapidly and effectually fulfilled."

Fieber's observations led me to form the resolution to adopt this mode of treatment when opportunity should present itself.

I shall now communicate the results obtained in three cases.

For pulverizing the fluid Bergson's well-known apparatus was employed, which on account of the facility of using it and its portability deserves to be preferred to any other.

Case 1.—On the 3rd Nov., 1861, I was called to see Heer de H., aged 57, the head of an extensive stonecutting establishment, who had for a year previously been under my care for pulmonary tuburculosis. The patient from time to time expectorated small calcareous concretions, and daily a large quantity of yellowish sputa, sometimes mixed with slight streaks of blood. From the physical examination of the chest, I inferred the existence in the apex of each lung of a cavity, according to my opinion in process of healing; in favour of which were the facts that the dulness on percussion was not extending; that the cavernous râles were very weak, sometimes not perceptible; and that, moreover, as has already been mentioned, calcareous concretions were expectorated, while the sputa appeared to me to be thick, and but slightly purulent. I found the patient lying in bed in a state of great anxiety and exhaustion. Those about him informed me that an hour and a half previously, while sitting in the watercloset and straining violently, he had suddenly thrown up an enormous quantity of blood, at the same time they showed me a spittoon half filled with bright red blood. Before my arrival the patient had been put to bed, and the discharge of blood had ceased, only some bloody phlegm was now brought up. The pulse was very small, and below the left clavicle strong râles were audible. I prescribed alum with laurel water internally, and cold compresses to the left side of the chest. In addition, I forbade his speaking, and recommended light diet, and that he should, as much as possible, avoid moving.

During the three following days his state was rather favourable; there was no fever, the sputa expectorated in the course of the third day were only very slightly tinged with blood.

In the night between Sunday and Monday I was called to him at half-past two. The person who awoke me stated that spitting of blood had again taken place. I brought with me Bergson's Inhaler and a solution of one drachm of sesquichlorate [sesquichloride] of iron in eight ounces of distilled water, as I suspected that it would be necessary to make the patient inhale this fluid in the form of vapour. I found him coughing, and each time bringing up bright red blood, while a considerable quantity was already in the spittoon. With the greatest care he was lifted out of bed and placed in an easy position in a chair. The inhalation of the styptic was commenced, and was continued with many intermissions, until the patient expectorated only bloody phlegm. During the inhalation

he coughed but little, the hemoptysis was not for a moment aggravated by it. I left him, advising that every two hours he should very slowly make thirty inhalations. Next day I found that no further hemoptysis had taken place, only bloody sputa were expectorated, which continued for four days, while a solution of one drachm of crystallized sesquichlorate of iron in six ounces of distilled water was used for inhalation, a decoction of rhatany being at the same time prescribed for internal use. The patient's strength, however, diminished very much, so that on Friday morning—that is the fifth day after the second attack of hemoptysis, I advised that the inhalations should be discontinued, the more so as they appeared not to be so necessary, the sputa having already begun to be less bloody. At two o'clock in the afternoon of the same day the patient suddenly raised himself upright in the bed, which was immediately followed by violent spitting of blood. When I visited him two hours later I found him in a sad state, very depressed, crying, exhausted, with a small pulse, complaining of oppression, with a glass half filled with blood at his side, and bringing up blood from time to time. In the left infraclavicular region very loud râles were again perceptible. As taking the patient out of bed was not to be thought of, I caused him to inhale for a considerable time, while in bed, the solution of one drachm of sesquichlorate of iron in six ounces of distilled water, until the spitting of blood had ceased, and to continue this every two hours. At half-past eleven in the evening I found him breathing very much oppressed, with loud râles, so that I thought I should not find him alive next morning. The inhalations were continued every two hours during the whole night. The following morning I was very much rejoiced to find that no more spitting of blood had occurred, and that after the inhalations only bloody phlegm was expectorated. The red colour of the sputa disappeared, the strength gradually increased, and now, after the lapse of six weeks, no hemoptysis has taken place. Although still keeping his room, the patient is already beginning to discharge some duties of an administrative nature, and is getting into a state similar to that he was in before the first hemoptysis occurred.

Case 2.—Miss M., aged 35, a native of Neufchatel, in Switzerland, governess in the family of F., at the Bilt, near Utrecht, came to consult me in the month of May for a laryngeal affection. She complained of sore throat, cough, shortness of breathing, and want of sleep. She had daily an attack of fever. She was very anxious about her state, as her father had died of laryngeal phthisis. On laryngoscopical examination I found that the signs of a chronic laryngeal catarrh, general redness, and slight mucus secretion were present; no ulcerations were perceptible.

In the infra and supra-clavicular regions was a very feeble respiratory murmur; the sound on percussion was clear; the resonance of the voice presented no difference on either side. I prescribed the use of sulphate of quinia, and at night a morphia powder. After some days she returned and informed me that she had in the morning spit blood, about two teaspoonfuls, and that this had taken place also some months before. Her former attendant assured her that this was not connected with any injury to her health, and therefore she paid little attention to it. Again, examining the chest, I observed neither râle nor crepitus; the heart's impulse was very strong, and the cardiac sounds were distinct and audible over the whole chest.

I suspected that the cause of the hemoptysis lay in a tubercular process in the lungs, although I had observed no decisive physical signs in favour of this view. I made her use, for a week, inhalations of tannin dissolved in water, but without any apparent effect, for which reason I replaced this solution with one of a drachm of crystals of sesquichlorate of iron in ten ounces of water, as she could not inhale a strong one. I advised her to continue this for a week, making fifteen inhalations three times a day. The spitting of blood soon ceased. I made her continue the inhalations for some time, and heard no more of the patient until the end of the month of May, when she again called on me and stated, that after having spent some time at the Hague, where she had taken much exercise and had exceedingly fatigued herself, the spitting of blood had returned. I found her very much emaciated; her pulse was weak, and her face very pale. I advised her to continue the inhalations steadily, with a solution of one drachm to eight ounces of water; the result was that the spitting of blood soon ceased again. Seeing her once more in August I found her state remarkably improved; she had for two months had no return of the spitting of blood. Towards the end of August it recommenced, which she communicated to me in writing, whereupon I again sent her the inhalation apparatus. In a letter dated September 22nd, she again gave me a report of her state. On this occasion the hemoptysis had been very obstinate, nevertheless it finally yielded to the diligent use of the inhalations, which she continued for a considerable time after its cessation. "Now I feel," she wrote to me, "very well, and I can do much without being fatigued; it even appears to me, that I can breathe much more freely than I have for a long time been able to do." From this period I heard no more of her; but, as she has not since got the inhalation apparatus from me, I may infer that the hemoptysis has for four months not returned.

Case 3.—Miss C. N. de T., aged 25, applied to me in the month of

May, on account of hemoptysis, from which she had suffered during the preceding six months. She seemed not to think much of her illness, for she required persuasion to induce her to seek for medical aid. She expectorated blood at very irregular periods. At one time the hemoptysis occurred every day, at another there was an interval of fourteen days. The quantity amounted to half a teacupful; the blood came up with a slight cough. Her chest was very flat, but no certain signs of pulmonary tuberculosis existed. After she had inhaled for some time, about fourteen days, a solution of crystallised sesquichlorate of iron in distilled water, the hemoptysis ceased. It has not returned during the last six months. Liquor stypticus, internally administered, had no effect.

The cases here communicated prove that very obstinate bleeding from the air-passages may be arrested by the inhalation of a solution of chloride of iron. They, moreover, show that the inhalation in itself does not give arise to any temporary aggravation of the symptoms, and that if some precautionary measures be taken (to have the solution not too concentrated, and the distance of the patient from the inhaling apparatus not too short), neither is the cough excited by it. I believe that where medical assistance is called to a case of dangerous hemorrhage from the air-passages, this mode of treatment should be immediately employed, and that every physician ought to have the proper apparatus ready at hand, by means of which he can control such a dangerous symptom, and by so doing, probably save or prolong many a life.—*Dublin Medical Press and Circular.*

PHYSIOLOGICAL PROPERTIES OF THE AMYL COMPOUNDS, FROM DR. RICHARDSON'S REPORTS.

On inhalation of nitrite of amyl, great stimulation and increased action of the heart follow. The author could make any number of person's hearts quicken ten beats per minute by the aid of nitrite of amyl vapour.

Acetate of amyl (essence of pears) was an excellent antiseptic.

Pure ether was preferable as an anæsthetic to the following:—acetic æther, hydrochloric æther, nitrite of amyl, amylene, or chloroform.

Nitrite of ethyl, like nitrite of amyl, was one of the most powerful excitants of the heart. Amylene and æther produce their effects by virtue of two acts—by suppressing oxidation of the blood in the lungs, and by the extraction of caloric from the blood. This latter point was

advanced as a new and more simple explanation of the action of the substance named, than had been before suggested. That the modification of symptoms produced by the change of form of a simple amyl or ethyle compound into a nitrite, turned upon the introduction of nitrogen into the composition, and by this introduction the anæsthetic action is destroyed, and is replaced by disturbance of muscular action, especially of the heart. In this respect the nitrite compounds represent immediately, in an exaggerated degree, the action of strychnine, theine, nicotine, and analogous alkaloidal substances, of which nitrogen forms an elementary constituent.—*Medical Press and Circular.*

The Colour of Man.—In the Physiological Section of the British Association for the Advancement of Science, Dr. John Davey read a paper on this subject. After enumerating the varieties of colour of the human race, and their connexion with latitude and climate, he proceeded to the consideration of the probable causes to which the difference of colour was to be referred. Of these, he placed first exposure to the sun's rays; next, warmth of climate and an average high temperature throughout the year, under the influence of which there appeared to be a tendency to accumulation of colour in the system, as indicated by the little difference of colour of the arterial and venous blood under the exposure of a high temperature. He adverted to hereditariness or ativism as deserving of attention in considering the colour of races, and more especially its importance as to the great question of unit of difference of race *ab origine;* how, if climate should be found to have greater effect than blood in modifying colour, unity might be inferred, and *vice versâ.*

New York State Inebriate Asylum.—Up to 1864 there had beee 7245 applications for places in this institution at Binghampton, from every State in the Union, and from Europe, Mexico, and the British Provinces, 520 of whom were opium eaters. There were 39 clergymen, 8 judges, 197 lawyers, 226 physicians, 340 merchants, 680 mechanics, 466 farmers, 240 gentlemen, and 805 women. One of the opium eaters, a lawyer, who had filled a highly responsible office, in one year drank 3200 bottles of M'Munn's preparation of opium. In one day he drank twenty bottles, equal to ten thousand drops of laudanum. Patients at this asylum are received for not less than a year, are watched, controlled, and medically treated. The expectation is that at least 70 per cent will be radically cured. It was stated at the recent Temperance Convention at Saratoga, that the names of 1300 rich men's daughters are on the list of applicants for admission to this asylum.

Canada Medical Journal.

MONTREAL, JANUARY, 1867.

REPORT OF THE PUBLIC VACCINATORS FOR THE YEAR 1866.

We publish below the report for the year 1866 of the Physicians who fill the office of Public Vaccinators for the city of Montreal. It demonstrates beyond a doubt the very great benefit which has resulted from the Act under which they hold their appointment, the deaths from variola having decreased from 363, in 1864, to 51 during the past year. We would like to know if the other cities embraced in the Act have taken steps to put it into force; and if so, we would have much pleasure in publishing the result of its working. We intend returning to this subject in our next number:

The undersigned, Public Vaccinators for the city of Montreal, beg leave to report for the information of the City Council, the result of their labours for the past year. In the number of children vaccinated there is a falling off compared with the previous year of 208, which may be accounted for by the fact that small-pox was a comparatively rare disease, and those who only rush to have their children vaccinated when danger is nigh, have neglected to avail themselves of the safeguard which vaccination affords. They regret that this class of persons is a large one, and would suggest that some means be taken (as is allowed by the Act under which we hold our appointment) to compel them to have their children vaccinated, for so long as this precaution is not taken, so long will small-pox claim yearly a number of victims from our midst. An examination of the mortality returns show that fully five-sixths of the deaths from small-pox are among children under ten years of age—a very strong argument in favor of every possible means being taken to have every child vaccinated at all events within the first six months of its birth. Few seem thoroughly to realize the value of vaccination as a safeguard against this disease, and the terrible responsibility which rests upon them, should their unvaccinated child contract small-pox and die. Although they cannot state with exactness the number of deaths which occur among unvaccinated children (no proper regis-

ter being kept) yet it is beyond question that the per centage is very large. Not only then is there an individual interest at stake to insist upon vaccination, but also a public one, for every fresh case of small-pox is a focus from which to radiate the infection. In England so great is the responsibility of parents who neglect to have their children vaccinated considered, that within the last six months Dr. Lankester, one of the Coroners for the City of London, has held inquests upon the bodies of children who have died of small-pox, and unvaccinated. In each case the verdict of the Jury held the parents to a strict account for their neglect. Notwithstanding the horror then with which this disease i held by all classes, it is singular that so many parents still neglect to take ad vantage of the opportunity offered by the public vaccinators.

Having said so much on the dark side of the picture, the Vaccinators have much pleasure in drawing the attention of the City Council to the fact that ever since they received their appointment, and the Act became tolerably well known and understood, a steady yearly decrease has taken place in the number of deaths from small-pox. This is most conclusive evidence of the good results of the Act, and is most gratifying to them, as they are sure it must be to the public. In 1864 the number of deaths from small pox was 363; in 1865 they decreased to 85, and the past year they have still further diminished—only numbering 51. Were the Vaccination Act made applicable to the country districts, as well as to the large towns, still greater benefits might be anticipated, for not a few of the cases of small-pox terminating fatally, and included in our annual City mortality, (from the fact that they are interred in one of our cemeteries,) are from the numerous villages in the neighborhood of Montreal, where but little attention is paid to vaccination.

Since our aprointment in 1862, the total number of 3,436 children have been vaccinated by us, divided as follows:

St. James, St. Louis, and St. Mary's Ward.....	1,774
St. Ann's and St. Antoine.....	1,218
East, West, Centre, and St. Lawrence.....	444
	3,436

The Vaccinators beg respectfully to submit that the amount (25 cents) which they receive for every successful case of vaccination, is altogether inadequate for the time and trouble involved in the vaccination of the child, granting certificates, and keeping a correct register. In Great Britain a sum equal to 60 cents is allowed for each public vaccination; and they would respectfully ask the Council to increase their remuneration to 50 cents for each successful case of vaccination.

The whole nevertheless respectfully submitted.

(Signed)

J. L. LEPROHON, M.D.
FRANCIS W. CAMPBELL, M D.
A. RICARD.

Montreal, 15th Feb., 1867.

CANADA

MEDICAL JOURNAL.

ORIGINAL COMMUNICATIONS.

Lectures on the Pathology and Treatment of Joint Diseases delivered at the McGill University, Montreal. By Louis Bauer, M.D., M.R.C.S., Eng. &c.

Gentlemen,—In compliance with your gratifying invitation, I propose to discuss some important points pertaining to articular diseases. This is possibly the only subject with which I may hope to engage so distinguished an audience.

The last ten years have been fruitful of material advancement both in the pathology and in the treatment of this class of affections, and their cultivation is still vigorously and diligently pursued. Notwithstanding all the achievements in that direction, the subject still remains in a state of transition, through the tenacity with which one portion of the profession adheres to the venerable teachings of the past, and the enthusiasm with which another portion declares itself in behalf of modern ideas. The time has certainly come when an understanding should be effected by means of unbiassed critical analysis and clinical experience. With this object I enter upon the present discourse. If, through inability, I should fail of realizing my design, I may at least hope to place the subject matter in such attractive relief as to insure your permanent interest and active participation in the settlement of the pending questions.

I.

Causation of Joint Disease.—On this point, there is a decided clashing of views. By far the larger number of practitioners, the leading members of the profession among them, are of the opinion that most cases of this class are the result of constitutional disorder, of which the articular affection is but the localized symptom. To this theory the most prominent authors on surgery are committed, and it is promulgated from the professorial rostrum and at the bed-side. Time and usage have even rendered it popular with the laity. A few modern enquirers, compara-

tively insignificant in name and position, not only take exception to this theory of causation, but assert that articular maladies are excited exclusively by local causes, and that the constitution bears no part in the causation. They further maintain that where the constitution suffers, it suffers from the ulterior effects of the local disease.

As long as etiological views on this subject so widely diverge, there can be no uniformity of treatment; nor can a compromise be effected between views so diametrically opposite. The only way of deciding between two, of which only one can be right, is to analyse the grounds upon which they are respectively placed. I hope the venture on my part in doing so will not be deemed presumptuous, for the conflict of etiology exists, and its settlement is certainly desirable. Too much has been already conceded by the old school to warrant a proud denial; and no party can feel aggrieved when appeal is made to the decision of "stubborn facts."

Scrofulosis, rheumatism, gout, syphilis, scarlatina, pyemia, and other diseases have been enumerated as constitutional causes of joint affections. To strumous disease, however, has been assigned the first rank, inasmuch as it has been linked with the numerous and diversified cases that happen during childhood. From my own experience I have to infer that not less than ninety per cent of all articular affections occur before puberty. Inasmuch as scrofulosis is not limited to childhood, and is supposed to extend beyond puberty, a few more per cent may be added to the original proportion, making a percentage of about ninety-five. Thus the theory of constitutional causation narrows itself down to the theory of strumous causation, and with this we shall have essentially to deal.

In entering upon our investigation, gentlemen, we meet with the singular fact, that notwithstanding the general acceptance of, and acquiescence in, the stated theory, nobody seems to know accurately what strumous disease really is. There are certainly no two writers that fully agree in its definition, nor does scrofulosis rest upon any firm pathological base. Even its clinical character is rendered so indefinite that implicit faith and a goodly stretch of imagination are required to realize its attributes. This is the status of modern literature on the subject, and in extending our researches over a more remote literary period, we are not less surprised to find that the scrofulosis of the present is a materially different malady from that of the past. The pathological school of the humoralists has identified this disease with a distinct morbid principle, a *materia peccans*, contaminating nutrition throughout, and stamping all other incidental lesions with its peculiar unalterable

character. The followers of that school very consistently resorted to starvation, vegetarianism, and to mercurial and antimonial preparations, for the purpose of freeing the system of that *deus ex machina*. With the physiological school the agent of strumous disease was mollified to a more imperfect formation of proteine compounds. They very wisely adopted opposite treatment with a view to regulate the chemical transactions of the body, and to correct the catalytic combinations of the proteine. Both schools accepted perverted hygiene and diet as the remote causes of strumous disease, and consistently believed that it was a disease of pauperism. Again: both schools insisted upon strumous diathesis and an hereditary transmission. These last views are fully compatible with the humoralist principle of pathology, but indefensible from the stand-point of the physiological school. Certain appearances of patients may indicate perverted nutrition, and a morbid principle, thereby engendered, may, like syphilis, be transmitted to generations. But a diathesis for the formation of low-graded proteine combinations is a senseless construction, and the hereditary transmission of such compounds is equally without meaning and inconsistent with the chemical tenacity and restitutive powers of individual life.

Science in its advancement has already made some substantial inroads upon the strumous domain, and narrowed its borders at some vulnerable points. Porrigo capitis and sycosis menti, formerly claimed as specific strumous forms, have of late been proven to be caused by insignificant vegetable parasites. The very prototype of scrofulosis, viz., keratitis scrofulosa, has been reclaimed by modern ophthalmologists as an independent and exclusive local lesion readily yielding to local appliances. And new incursions are threatened from other sides. Help was evidently needed to uphold the loose cohesion of the scrofulous architecture and to save it from pathological downfall. It was but too readily found in tuberculosis. By incorporating the latter with strumous disease, some anatomical tangibility was secured. Gradually the new pathological element has prevailed so completely, that but the name of the old scrofulous doctrine remains. In talking about strumous infiltration, *tubercular infiltration* is meant; and in fact in its former and present application, the tubercular element has completely superseded the strumous one. The transition from one to the other has been effected so clandestinely as to be noticed but by very few. The alliance between scrofulosis and tuberculosis proves, if anything, that neither had ever acquired a self-sustaining existence. Both diseases are clinically and anatomically different in character. One is said to prevail amongst children, the other amongst adults; and only exceptionally is this rule reversed. The organ

which one chooses is but rarely sought by the other. Their very presumed causes differ most essentially,—one said to be the result of poverty and sanitary defects; the other having no respect for gradations of wealth and station. They differ even in geographical distribution. Notwithstanding all these differences, they are, by tacit understanding and acquiescence identified as the same disease. It would be unjust, however to say that this transition has been effected totally without opposition. Of late the pathological character of tuberculosis has been subjected to various and close investigations. Its identity with pus has been asserted by Cruveilhier. The results of his experiments upon rabbits demonstrate at least this much, that pus is susceptible of undergoing the very same metamorphosis as tubercle, from the semi-fluid condition to perfect innocuous calcification. The strongest advocates of genuine tuberculosis have been forced to admit that there are often pus corpuscles, where the external appearance of the object denotes tubercular substance. Few authors have had better opportunities of studying the pathological anatomy of bone and joint diseases than Gurlt of Berlin, his investigations extending even over the veterinary field. If I correctly interpret his statement, he has met with no tubercle in joints and bones at all. What other authors had pronounced to be tubercular infiltrations and caverns, he recognised as purulent infiltration the result of osteo-myelitis, and as bone abscess the sequence of circumscribed ostitis. And Virchow, one of the most esteemed pathologists of our time, considers himself justified in stating that tubercle is fully compatible with the acknowledged changes of inflammatory products. Again, gentlemen, is there any peculiarity about tuberculosis that could be established and accepted?

You are aware that the so-called tubercular cell has been asserted, but the microscope has failed to prove its reality. If the microscope cannot substantiate any peculiarity, how much less can the naked eye! For there is certainly no difference in appearance between tubercular matter and cheesy pus, and the suspicion of identity must necessarily accrue from such conformity. At any rate our knowlege on the subject is not final and exhaustive; and we may justly look for further disclosures rather detrimental to, than confirmatory of, the genuine character of tuberculosis.

But, to return to the starting point of our discourse, I shall find ample occasion to show, that the strumous theory in its practical application to articular diseases, is worthless and rather injurious than otherwise, as it certainly has long diverted us from a course of investigation that alone could lead to practical results.

Consistently with the received opinions the lower classes of society

must come in for their full share of joint affections simply because they are supposed to contend with poverty and hygienic neglect. If this assertion had any show of correctness, it would imply that where we find joint diseases, there we ought to expect poverty and hygienic neglect. But clinical experience in a great measure contradicts the assertion. These affections happen in all classes of society. They do not pass the mansions of the rich, nor are the agricultural districts exempt from their visitation. Yet with all it must be allowed that there is, in the abject domestic condition of the industrial classes of Europe, a plausible reason for assuming that they are more subject to chronic derangements of nutrition than the wealthy portion of society. Nor can the action of such nutritive derangements upon local diseases be altogether denied. At any rate, our pathological associations tend to confirm this supposition; though it may be clinically difficult to qualify the exact measure of those constitutional colourings of local lesions. Those who have had the opportunity of personally investigating the actual social status of the European proletariate and pauperism agree that it is deplorable in the extreme. They occupy in cities the worst of dwellings, in the lowest of quarters; their rooms are overcrowded; their articles of food are of inferior quality; multitudes subsist from offal; their opportunities for cleanliness are limited and little resorted to; their very existence is a contest for the necessaries of life. Many of the working classes and paupers domiciliate in places inaccessible to air and sunlight, in damp, and musty basements where but fungi thrive.* The combined effects of these unfavorable surroundings upon mind and body are so appalling to the humanitarian as to be remembered with painful sympathy. They give rise to the most aggravated forms of so called strumous disease with which the public hospitals and dispensaries are crowded. It is but natural to associate so conspicuous a morbific agency with a class of diseases seemingly devoid of other causes, and reacting heavily upon the nutritive standard of the patient.

In contemplating the financial condition of the same classes in the United States, we have no difficulty in finding an entirely reversed status. Here the demand for labour far exceeds the supply, and its compensation has therefore for years past been very remunerative, so as to furnish ample income to every individual who aspires to an honest living by handiwork. The "Trades Associations" have, under these circumstances, readily succeeded in controlling employers and in imposing upon them

* According to the latest statistics, 10 per cent. of the entire population of Berlin, live in cellars and basements.

thir own terms for labour. However premature the eight hour labour movement may have been, this much is to be inferred from it, that the working classes are almost the sole arbiters of their own affairs, much to the oppression of the other factor of industry. So great has been the demand for hands, as to necessitate the employment of thousands of women and children. Nothing serves as better evidence of the financial thrift of labour than the acknowledged prosperous condition of the Savings Banks. Hence the domestic state of the working classes is infinitely superior to and beyond all comparison with that of their trans-Atlantic order. In fact the humblest labourer here finds himself in the possession of enjoyments which would be estimated as luxuries in Europe. However imperfect the tenement houses may be when compared with the dwellings of the wealthier classes, still they are comparatively spacious, well-lighted and accessible to current ventilation. The food of the working classes is bounteous and wholesome, and there are very few families but have animal food at least once a day. Copious water supply to tenements ensures all facilities for cleanliness; and public baths are accessible to all at a moderate rate. A glance at the attire of our industrial classes on a Sunday, gives us volumes of proof of the comparatively easy circumstances by which they are surrounded. What might have been anticipated *a priori* from their superior conditions is confirmed by practical observation, viz., that our industrial classes exhibit a better general health, a robust appearance, and none of those excessive forms of nutritive derangement which are comprised under the collective term of strumous disease. The contrast existing for instance between the populations of New York and Vienna can scarcely be overdrawn. In the Austrian metropolis almost every person one meets looks sallow, anemic, attenuated, physically impoverished, afflicted with swellings, ulcerations, and cicatrices of the cervical glands, of which in our midst there is hardly a trace.

The comparison to which I have drawn your attention, gentlemen, is between Europe and the United States, with which I am best acquainted. Whether my remarks apply equally to your prosperous Provinces, you can decide best.

Notwithstanding the superior advantages, facilities, and prosperity of our industrial classes, and notwithstanding the fact that scrofulosis in general has found amongst them but a limited ground of development, we meet, at least in the Northern States, with numerous cases of articular diseases for which constitutional causes cannot be assigned. What therefore is plausible for Europe is inadmissible with us, and this very circumstance was the first shock which unsettled my belief in the theory of strumous causation. In defence of the old theory it may be urged

that tuberculosis prevails in the United States, and satisfactorily accounts for the occurrence of joint diseases. Such an argument can not be accepted as tenable, though the facts appropriated as premises may be conceded. For it so happens that tuberculosis is met with North and South, and apparently much more frequently in the latter. Among the negroes of the South, for instance, glandular affections are quite common and easily accounted for by their principal vegetable diet and hygienic indifference. If therefore the proposition be correct it will follow that joint diseases are more frequent in the South and especially amongst negroes than in the Northern section of the country. This is however not the case: on the contrary the further one proceeds South the less he meets with articular diseases; and according to the statements of competent surgeons of that region, they become perfect rarities near the Bay of Mobile, the Gulf of Mexico, and the West Indies. But irrespective of this geographical limitation of joint diseases, we have a right to demand ocular demonstration of the *tubercular deposit* alleged to be the *corpus delicti*. There are very few physicians who pretend to have seen tubercle in the affected structures. Thus, for instance, Professor Gross, who is one of the warmest advocates of the theory of tubercular causation, owns that he has never met with tubercular depositions in joints. He finds sufficient evidence for his opinion in the fact that a patient dies from tuberculosis after having suffered from joint disease. This sort of logic must pass for what it is worth. It has never converted me. For by the same reasoning we might come to the conclusion that a furunculus, a paronychia, or a fracture, happening to a consumptive patient, are of a co-ordinate character with tuberculosis of the lungs.

Gentlemen, I have submitted to your mature consideration my doubts as to the correctness of the time-honoured and prevailing opinion of strumous and tubercular causation. All I can desire of you is to look upon my arguments as suggestive. For my part I have bid adieu for ever to the old theory as an unsafe guide.

Now if the facts adduced are true, and my reasoning consistent with them, and if I have made out a clear case against the strumous or tubercular causation of joint diseases, it follows that there must be causes other than those heretofore assigned. To find them out and to prove them as such will be "the next business in order."

I have already observed that about ninety per cent of all articular affections fall upon the period of infantile development. The proportion is however very different in different ages of childhood. An articular disease is certainly a rarity among infants,—we seldom see it before the expiration of the third year. From that age upwards to the

fifth year, these affections become more numerous and attain perhaps their highest numerical proportion at the sixth. Then they commence to diminish gradually, and at about the tenth year they are reduced to but few recent cases. Towards puberty these are probably as rare as during the infantile period. I need not state that these facts are based upon a careful statistical record of my own and are borne out by the experience of well employed surgeons. I think it is apparent that the strumous theory does not offer a satisfactory explanation of these facts, for the prevalence of the disease is not supposed to be restricted to any particular period of childhood. We must therefore look for a more consistent explanation. The period of infancy is that of special parental protection. The child is mostly under direct charge of the mother or nurse, independent locomotion not having then commenced. The second and third year of infantile life enjoy less or more the same protection against accidents and injuries. With the fourth year a new epoch commences. The child is curious and inquisitive; it wishes to examine and to touch everything; it climbs upon chairs and tables; it trusts to its own guidance and escapes from the protecting eye of its mother; and it is thus exposed to all sorts of falls and mishaps. With advancing age and knowledge of its surroundings the child becomes more appreciative of danger, and more careful and timorous in its ventures. At a later period, when judgment and prudence assume their sway, accidents and particularly falls become of rarer occurrence. Reasoning from these facts I cannot but conclude to regard traumatic injuries as the sufficient cause of joint diseases during childhood.

With this supposition coincides a cordon of additional facts equally demonstrative, viz:

1. Joint diseases are not limited to any particular class of the population, nor to cities; on the contrary they occur amongst all classes of society and in agricultural districts as well as in the densely populated foci of industry.

2. Joint diseases conform to certain latitudes.

3. Certain joints are more often affected than others.

4. Boys are more subject than girls, and sanguine and impulsive children more than phlegmatic and indolent.

5. We rarely fail to trace the attack to traumatic antecedents.

6. Constitutional treatment *per se* has proved of no avail in articular affections.

7. In fine, positive results follow the exclusive local treatment of these lesions.

At 2 I do not mean to imply that climate exercises any direct or spe-

cific influence upon the numerical distribution of articular diseases, notwithstanding the undeniable facts previously adduced. But inasmuch as the temperament, usages, diet, domestic habitations, tastes, employments, &c., of the inhabitants differ according to latitude, we may be justified in speaking thus of the generative causes of disease. In comparing therefore the Northern and Southern States of the Amerian Union we notice differences in this respect most material in their ulterior pathological consequences. The temperament of the purely Southern people is less sanguine and excitable than that of their Northern compatriots. The calmness of the Southern man is the result of his climatic constitution, and is in every respect natural, whereas the imperturbability of the New Englander is the effect of incessant social and religious discipline. The diet in one section is greatly farinaceous, in the other more nitrogenous. The habitations of the one are spacious but low, whereas the other dwells in four storey buildings. There the streets and the environs of dwellings are left as nature provides; here they are paved and improved in various ways with hard surfaces. Ease has pervaded society in the South, whereas ours has been marked by constant bustle, expansion, restless and ambitious strife and collision of interests. Our employments are greatly those of a commercial and manufacturing people, theirs are those of an agricultural community. In other words our pursuits engender toil, emulation and egotism, while their condition is simple, calm, and primitive. The same contrast exists less or more between the inhabitants of cities and agricultural districts. What bearing, you may wonder, have these differences upon the statistics of joint affections? Simply this that a Northern child is more impulsive, ambitious, and quarrelsome, because he is confined, restricted in space, imposed upon and brought into collision with other children. His animal diet renders him stronger and more irritable. Hence his liability to casualties. Again a fall from a high staircase, or from a horse, waggon, fence, &c., to a hard side-walk or pavement occasions more serious effects than the same fall upon soft ground.

At 3 it is to be noted that among all joint diseases those of the knee are most numerous; next in number come those of the hip joint; next those of the bones and joints of the spine; then those of the elbow; then those of the tibio-tarsal articulation, &c. These well known and acknowledged facts are not accidental, and the old theory fails to account for them.

It has always been alleged that strumous disease has particular affinity for the spongy and reticular structure of bones. If this be so, the tarsal, carpal, and vertebral bones should engender the disease more readily

than any other portion of the skeleton. Yet as we have seen the numerical preponderance happens at the knee and hip articulations, while both these joints being more than any other exposed to injury by falls, blows, and other accidents.

The proposition under the heading 4 needs no special comment. The fact that boys are more subject than girls to articular affections must be accounted for by their greater exposure to injuries, It is incompatible with the theory of strumous causation, because girls are more exposed than boys to the causes of that disease. At proposition 5 it is worthy of recollection that at certain periods of childhood accidents are of very common occurrence, though they are generally disregarded as causes of disease, unless they immediately eventuate in great pains, contusions, wounds or fractures. The proof of connection is sometimes difficult because weeks and months may elapse before the pathological effects clearly manifest themselves. In rare cases one follows the other so closely that the mutual relation is patent and unmistakeable. That apparently slight injuries may suffice to lead to grave consequences, I have had frequent opportunities of observing. Allow me to relate but two instances in exemplification.

A little girl fell backward flat upon the sidewalk. She immediately experienced violent pain at a certain portion of the spine, and had to be carried home. I saw her soon after the fall. One of the spinous processes (the 5th dorsal) not only projected perceptibly, but was painful to the touch. The advice to keep the patient in the recumbent posture for at least three months was followed but for a short time, and the child was permitted to resume locomotion. At the end of six weeks, during which time the dorsal protrusion had noticeably increased, I was again invited to see the case. The little girl was then suffering from intense pleuritis of the left side, which eventuated within three days in copious exudation into the pleural cavity with dislodgement of the heart. Death soon ensued.

The view I held and expressed was that the recent disease was connected with the fracture of the spine; that most probably an abscess had formed at the injured point in the column, and had discharged its contents into the pleural sac. The father, in order to relieve his mind from the indirect imputation of neglect, repressed his aversion to an autopsy. I need not assure you, gentlemen, that my diagnosis was in every particular verified. There was, indeed, a fracture of the fifth dorsal vertebra, though of very limited extent, a mere chipping off of a wedge-shaped fragment still connected with the next lower intervertebral fibro-cartilage. There was next an abscess in front of the frac-

ture and beneath the periosteum, with, as it were, two compartments, one on either side of the spine, communicating through the fracture. The left compartment, the larger of the two, had effected a perforation into the left pleural cavity. Besides this, disintegrations of bone, cartilage, and adjacent structures in general occupied the affected locality.

The other patient was a middle-aged man, a music teacher, of German extraction. When under the temporary influence of liquor, he fell from an elevation of about five feet, and struck violently the internal circumference of his right knee joint. The intense pain that set in forthwith, soon sobered him, and impressed him strongly with the apprehension of grave injury to the articulation. A physician was immediately called but failed to discover any injury. I saw the patient the third day after the accident. There were no superficial traces left by the fall. The articulation was hot, swelled, flexed, and extremely tender to the touch. From time to time, spastic oscillations appeared, and terrified the patient, who was pale and dejected from want of food and rest. I placed him under chloroform, extended the extremity, and secured the position by appropriate appliances. The trouble yielded without any further treatment; and, for aught I know, the patient recovered from an attack that might have permanently affected the articulation.

The interval of time between cause and effect, is, after all, more apparent than real. Many cases, especially those of affections of the spine, commence in so insidious a manner, and the initiatory symptoms are so general and indefinite, as to be excusably misinterpreted not only by the parents, but even by the professional attendant. Among other cases of the kind, I remember one in particular, which had puzzled the physicians for a number of months, until a correct diagnosis was obtained.

The patient is a little boy of fine organization, of a most impressible and active nervous system. His agility and daring even to this day are extraordinary, notwithstanding the conspicuous posterior curvature which has gradually become established. He may have been five years old, or thereabouts, when he sustained a fall from a fence six feet high, causing at the time considerable alarm to him and his parents. But no perceptible disturbance of his health immediately following, all fears were dismissed and forgotten. A few weeks after the occurrence, the patient exhibited signs of general ailment, decrease of appetite, pallor, weakness, disturbed rest, irritable temper, and indisposition to join in the frolics of his playfellows, Occasionally the pulse became accelerated, with contemporaneous thirst and increase of temperature. He complained of a transient pain in the stomach. His alvine evacua-

tions were sluggish, badly mixed, dry, of light colour, and offensive odour. The abdomen was often distended with gas. The urine was pale, and deposited a whitish sediment. These symptoms prevailed for months without material change. . The diagnosis of an " affection of the liver " was not without plausibility, inasmuch as that organ had become enlarged in all its diameters. At the end of the eighth month, frequent and painful hiccough was observed, and tenderness of the back became manifest on motion of the spine. In fine, his gait became awkward, and the movements of his body restrained and stiff. He craved for rest and support, which he obtained by placing his elbows on suitable objects, and his head upon the palms of his hands. Ten months after the accident my services were called into requisition. At this juncture it was easy enough to recognize the true nature of the complaint. The marked prominence of several spinous processes at the thoracolum-bar region of the spine rendered the diagnosis both transparent and conclusive. To the experienced practitioner, it may seem surprising that the diagnosis was not sooner accomplished, and the disease of the spine arrested by appropriate means. The entire train of symptoms pointed at a local lesion of progressive tendency: and a searching examination could scarcely have failed to reveal the locality of the affection. Nevertheless when we recollect the difficulties in the premises, the aversion of children to manual examination, the disinclination of parents to see their offspring thoroughly handed by the surgeon, and last but not least the limited field of general practitioners for fully observing and becoming conversant with these insidious cases, we will be sparing in our censure even if it should be warranted. It cannot be denied that in the case submitted, there was an uninterrupted connection between the accident and the subsequent disease. I have made the same observation in many cases that have come under my charge and have no doubt that other observers have the same experience. Nevertheless I am far from denying that joint diseases may arise from constitutional disorder likewise. But according to my clinical researches their number is proportionately insignificant. In cases of this character we find originally more than one joint affected, though the disease may eventually fix itself upon one articulation. This appertains more particularly to rheumatism, gout, and especially to pyemia. When on the other hand but one joint suffers from the beginning to the end, and the constitutional symptoms supervening are in conformity with the inevitable reaction of the local process upon the general system, then it is rational to infer that the local affection is of strictly local causation.

Every candid practitioner will agree with the aphorism enunciated

under 6. It is certainly a simple fact that the anti-scrofulous treatment of joint diseases has disappointed both him and his patients. My own clinical training coincides with that period in which the old etiological views held unbounded sway. They consequently regulated my action at the bedside. I followed with full confidence and scrupulous exactitude the doctrines of my distinguished preceptors Rust and Von Graefe. I coveted cases of this class, which seemed to be tacitly slighted by the more experienced members of the profession. But all my efforts were in vain. I accomplished no material change that could have been claimed as the result of devoted services. My cases took the usual course to complete obliteration of the respective joints,—malposition of the affected extremities, suppuration, caries, exhaustion and death. Nay more, I had the mortification to perceive that I could but rarely control the intense pain usually attendant upon such cases. Similar admissions have been made by other experienced practitioners, and I am led to believe that the negative results of anti-scrofulous treatment of joint diseases is now generally conceded by that portion of the profession whose opinion has value.

In the seventh aphorism, I broadly assert without fear of contradiction that in the treatment of joint diseases, local appliances scarcely ever fail of modifying or subduing the morbid process. For the last ten years I have held these views, and practically tested them at the bed side; and I can candidly and most emphatically assure you that the results thus attained have been most satisfactory in every particular. In but few cases have I ever had any need for constitutional remedies. Most of them yielded readily to local means; and with the local improvement the prevailing constitutional disturbances subsided. When thus rest and appetite were insured, the patients increased in *weight*, and rapidly improved in appearance and feeling. I need hardly state that my therapeutic views on this point were slighted for a number of years by those men to whom the profession look up for precept and example. But when Dr. Davis' portative extension apparatus became generally known the professional mind underwent a material change and then turned its attention to the subject. A few years ago the New York Academy of Medicine discussed the subject of hip disease at successive meetings. Most of those who participated in the discussion admitted in emphatic terms the therapeutic efficacy of that instrument, retaining at the same time the old tubercular theory of causation. Nobody seemed to notice the contradiction between theory and practice, and it was then and there that my views gained the ascendency. I simply stated on that occasion that but one could be right. "If hip disease were the consequence of

strumous invasion, a portative extension of but few pounds could have no effect whatever in relieving or curing that complaint; and if it actually had the effect alleged, it would be the most undeniable proof against the constitutional character of the disease." The attempt to refute my logic was as feeble as it was unsuccessful, and from that date it may be said that the new theory was admitted to scientific citizenship. I shall not on this occasion enter more extensively upon the subject, inasmuch as I have to recur to it when speaking on the treatment of articular diseases.

Surgical Cases in the Practice of Louis Bauer, M.D., M.R.C.S. Eng.
Reported by F. W. Bird, M.D., Queen's College, Canada.

In the practice of every eminent surgeon, cases are constantly occurring illustrative of contested theories, and full of scientific interest to the speculative student of the healing art, as well as of great practical value to the earnest and studious practitioner. Most of these, however, are lost to the profession through want of time in the hurry of pressing business and the turmoil of passing events. But few surgeons combine the habit of plunging into one bold contest after another with the higher grades of disease, achieving grand results in quick succession, with the less brilliant qualities of the reporter and compiler. To the ant-like patience of the latter in accumulating and elaborating the materials upheaved by stronger hands, we are mostly indebted for the well adjusted magazines of knowledge which every good medical library contains. In preparing a few of the cases of Dr. Bauer for publication in your valuable journal, I hope to rescue from oblivion, facts and observations which afforded me much pleasure and profit, and I think cannot fail to interest your readers. The proper preservation of isolated cases like these can only be effected through the medium of medical journals, fitted as they are for specially recording events and suggestions that interlie the great periods of medico-surgical history, and are demanded for use before they can be associated with sufficient matter to be issued in book form. Your readers, being mostly medical men in practice, will, I trust, appreciate my motive in avoiding the tiresome minutiæ with which many clinical reports are lumbered, filling valuable space with commonplace descriptions and details to be found in ordinary text books, and thus depreciating in worth the journals which contain them.

Case I.

Caries of the Spine—Abscess—Asthma Millari—Death—Autopsy.

The little patient was placed under the care of Dr. Bauer on the 8th

ult. She was of a healthy family and of the tender age of three years and nine months. Four months ago she fell against a wall from a chair in such a manner as to force the head violently forward and downward upon the chest. From that time she suffered severe pain at the neck, became much attenuated, and experienced constitutional derangement. On examination the cervical portion of the spine was found to incline, and the head to be bent backward. At the cervico-thoracic portion of the spine there was a marked prominence of several spinous processes of which the first dorsal projected farthest. While the Doctor was carefully proceeding with the examination, the patient was suddenly attacked with so great an occlusion of the rima glottidis as to render her breathless, cyanotic, and slightly convulsed. This attack lasted at least fifteen seconds, and gave rise to serious apprehensions of instantaneous death. The examination was discontinued, but enough had been elicited to furnish a conclusive diagnosis, of which the following contains a summary. "In the peculiar fall of the child the body of the first dorsal vertebra had been either simply fractured or else crushed. The injury having been entirely disregarded for so long a time, it has given rise to inflammation and suppuration. There is most probably a cylindriform abscess in front of the affected spine, encroaching upon the œsophagus and the recurrent nerve or nerves. Hence the attacks of Millar's asthma. The prognosis is exceedingly unfavourable, and the child will not survive many of these paroxysms. The recumbent posture on the water bed is probably the only means of temporarily alleviating her sufferings." On the 12th ult. (four days after the reception of the case) the death of the child was reported, having taken place in the exact manner foretold. Fortunately an autopsy was permitted, at which I assisted. We found an abscess in front of the spine, commencing at the fourth cervical and terminating at the fourth dorsal vertebra. The anterior wall of this rather narrow abscess was formed of the periosteum and the common ligament, and encroached materially upon the œsophagus. The diseased portion of the spine was removed. The specimen consists of the fragment of the seventh cervical, and of the fifth, second, and third thoracic vertebræ, the next superior and inferior bones being mainly healthy though slightly corroded. The bodies of the last cervical and first dorsal vertebræ are entirely destroyed up to the place where the bodies join their respective arches. Of the second dorsal a large portion of the body has disappeared, whereas the body of the third dorsal has been but slightly affected. Between the seventh cervical and first dorsal, there is an undue mobility. The first and second ribs on each side have lost their vertebral attachment. The spinal cord is deprived of its anterior bony protection

through the destruction of the two vertebral bodies. There is a small sequestrum remaining. obviously a part of the seventh cervical. It is surprising that under these circumstances no paralysis has taken place. The matter that filled the abscess was rather thin, but presented otherwise the ordinary attributes of pus. The rapid destruction of the vertebral bodies in comparatively so short a time, scarcely a vestige being left, is a matter of great pathological interest. Hardly less interesting than this is the question of causation. There appeared to be nothing in the child of a tubercular diathesis either inherited or acquired, nor have we found any morbid substance that could possibly be confounded with tubercular deposit. On the other hand it is known that the child met with a serious accident from which its sickness can be dated, and which was moreover of a description to cause at least a fracture if not a comminution of the vertebral body. And lastly it is substantiated that the patient was entirely well until the accident occurred, and from that time until its death suffered from symptoms, to all appearance, entirely local in origin. I consider myself therefore justified in assuming that the specimen represents one of those numerous cases of caries and posterior curvature of the spinal column that are of a strictly traumatic origin, although the present pathological conditions are of so advanced a character as to leave not a single direct proof.

Case II.

Stone in the Bladder of a Child—Bilateral Section Performed—Recurrence of Calculus—Opening of the Old Wound—Second Bilateral Operation—Second Recurrence of the Disease—Injection of the Bladder with Water Acidulated with Nitric Acid—Final Recovery.

The patient, who was not quite three years old, had already suffered some months from difficulty in passing his urine, when in the summer of 1865, Dr. Bauer was applied to for aid. The exploration of the bladder gave positive evidence of calculus for which an operation was suggested and accepted. A calculus of the size of a small chesnut, with a smooth surface and composed of urates, triple phosphates, and mucine was removed by the bilateral section. Before the patient left the operating table, a most careful search was made for other concretions, with a negative result. The mucous membrane was entirely smooth and presented no recesses where fragments might have concealed themselves. Repeated injections through both urethra and wound brought no further *corpora delicti*. Though the wound healed very kindly in the usual time, the patient very soon complained again of his old trouble which in the course

of three months became as intense as it had been before the operation. At this time the wound re-opened, and a fistulous track could be followed to its termination in the bladder. The sound revealed new calculus. A diathesis for the formation of these concretions being unquestionable, a mixture containing nitro-muriatic acid was given with a view to its correction, accompanied with other appropriate treatment. After a reasonable delay, the result being unsatisfactory, the sound still marked unerringly the presence of the offending substance, and no alternative was therefore left as to the choice of method for its elimination. The former operation was repeated in such a manner that the closure of the fistulous opening was included in the plan. No untoward incident disturbed the progress of the second operation. Three calculi of the same composition as the former were extracted. One had acquired the size of a hazelnut, and a smaller one was coniform and seemed to have shaped itself to the neck of the bladder. At this time the vesical walls were slightly covered with concretions which had to be carefully detached. The utmost attention was paid to the thorough cleansing of the parts concerned, and the patient was not removed until the fullest assurance was reached that nothing remained. The wound healed very rapidly, and was closed on the fourteenth day. At the end of the sixth week, after the second operation, new troubles commenced. The urine passed guttatim, and apparently with excruciating pain. At one time there was complete suppression of urinary discharge. In attempting to introduce a catheter, the doctor met with calculus in the urethra, obstructing the passage. The child was then placed upon the operating table, under chloroform, and, by means of Daviel's spoon, the urethra was cleared for a considerable extent; but a few pieces in the membranous portion had to be pushed back into the bladder, in order to re-open the passage. The sound detected several fragments of calculi in the bladder. The further proceedings in the case were subjects of anxious consideration. Dr. Bauer felt disinclined to repeat the operation. The tender age of the child, with its high state of nervous susceptibility, induced by continued suffering, and the very irritable condition of the bladder, were not inviting indications for lithotripsy. Nothing seemed to be left, but copious injections into the bladder rendered efficacious by chemical agents. The doctor had convinced himself, from repeated experiments, that diluted nitric acid would rapidly dissolve the earthy portion of the calculi, leaving a soft and pulpy substance, which could be easily expelled. On this supposition, he injected, with due care, the following:—℞ Aquæ Destil. Oj.; Acidi nit. dil. ʒ v. M.; Injice omn hora quarta.

After three days' treatment with these injections, which were well borne by the patient, and caused no inconvenience whatever, a quantity of grumous substance was from time to time discharged, with evidently increasing relief. Since then the trouble has entirely subsided. The use of nitro-muriatic acid internally was directed, and adhered to for six consecutive months. This most probably had something to do with the final prevention of the difficulty. The case is interesting in many respects, but particularly in this, that, by means of injection, the calculi were so dissolved as to leave the mucine to be easily voided *per vias naturales*. Injections for this purpose have been often recommended, but they have hitherto given such unsatisfactory results as to be almost entirely abandoned. Very few surgeons deem them worth resorting to; and Dr. Bauer might have omitted them also, had not necessity forced him to test their usefulness.

Brooklyn, N.Y., February 5th, 1867.

REVIEWS.

A Handy Book of Ophthalmic Surgery for the use of Practitioners. By John Z. Laurence, F.R.C.S., M.B., (Univ. Lond.) Surgeon to the Ophthalmic Hospital, Southwark, editor of the Ophthalmic Review, &c., &c., &c., and Robert C. Mooore, House Surgeon to the Ophthalmic Hospital, Southwark, with numerous illustrations. 8 vo. pp. 191. Philadelphia; Henry C. Lea, 1866.

Ophthalmic Surgery has, during the last fifteen or twenty years, made most rapid strides, so much so that the busy practitioner has not the time to devote to the perusal of the many excellent monographs which are being daily added to the store. With a view of bringing within a small compass the principles and practice of modern Ophthalmic Surgery the authors of this work have issued it to supply a want very generally felt.

In describing the symptoms of any affection, they have limited themselves to those most essential for the recognition of disease, and in describing operations they have retained alone those details which are necessary for their performance.

To the practitioner it matters not what are the remote causes of disease. What he wants chiefly to know is how to recognise diseased action where it exists, and having determined what lesion is present, how to treat it most effectually. Mr. Laurence is surgeon to the Ophthalmic Hospital, Southwark, and R. C. Moore is his House Surgeon; in this institution the authors have had rare opportunities of observing diseases of the eye

where upwards of 6000 cases are treated annually. The practical details are based on the observations of some eight years, so that the treatment they advocate bears the imprint of extended experience. The work consists of seventeen chapters. The first chapter is devoted to methods of examining the eye. Chapter second, general remarks on ophthalmic operations. Chapters three to twelve describe diseases of the orbit; of the eyelids, of the lachrymal apparatus; of the muscles of the eye; injuries to the eye and orbit; diseases of the various tissues, and crystalline lens. Chapters thirteen and fourteen treat on amaurosis and amblyopia, glaucoma, &c. The remaining chapters are on diseases affecting the whole eye ball; on vision and optical defects of vision. This work is a most excellent *résumé* of all that is of practical utility in this specialty, and will be found of great value by general practitioners, those who, living at a distance from the center of Medical and Surgical observation, are frequently called upon to treat diseases of the visual organ. It is amply illustrated by clear and distinct wood engravings, and further enriched by a series of instructive and highly interesting cases. The type is large and well impressed, and altogether the work is most creditably issued by the American publishers.

A Practical Treatise on the Physical Exploration of the Chest, and the Diagnosis of Diseases affecting the Respiratory Organs. By Austin Flint, M.D., Professor of the Principles and Practice of Medicine in the Bellevue Hospital Medical College, &c., &c., &c. Second Edition, Revised. 8vo., pp. 595. Philadelphia: Henry C. Lea. 1866.

Dr. Flint's treatise on the exploration of the chest is written in his usual elegant style. There is a general tone of originality, which gives force to its practical teaching, and which must obtain for this treatise the position of a standard work on the diseases of the respiratory organs. The first edition of this work was published in 1856. It has been some time out of print; but during the ten years which have elapsed between the first and second editions, the author continued to give special attention to the physical diagnosis of diseases of the chest. The opportunities of the author have been considerable, as throughout the interval which has elapsed since the appearance of the first edition, he has been connected with several large hospitals, both in New Orleans and New York, where he seized with avidity every opportunity of perfecting himself in this department of his profession. The author remarks:—

"Physical exploration may be mastered by means of books and lectures, together with such clinical opportunities as are offered in any hospital of considerable size; but the saving of time and labour effected by systematic bed-side instruction in large hospitals is immense; the amount of progress made in a few weeks is greater than is possible during many months or even years without these advantages. It would conduce much toward a more general diffusion of the practical knowledge of auscultation and percussion, were a larger number of competent physicians connected with large hospitals to become engaged in forming classes for private instruction in these methods of physical exploration—a department of medicine which commends itself as not less attractive than important."

The author sets out with an introduction, in which are given, in the first section, the Anatomy and Physiology of the Respiratory Organs, and in section ii. he gives the Topographical Divisions of the Chest. The rest of the work is divided into two parts.

The first part sets out with some admirable remarks on the value of physical signs, and on the best method of cultivating a knowledge of them. In turn are considered the various methods of physical exploration, as percussion, auscultation, inspection, mensuration, palpation, and succussion; also the phenomena elicited by these means in health and disease. To each is apended an historical *résumé*, concise, but of considerable interest.

We notice throughout this part that there is an absence of that multiplication of terms to denote very simple references, which is much indulged in by most writers of the present day. It does seem that, lacking originality in other respects, the tendency of writers of our day is to smother up their observation with newly-coined words, so that the unfortunate student has to acquire a new nomenclature before he can appreciate the writings before him. It is refreshing, after perusing a work filled with unintelligible jargon, to get hold of one like this of Dr. Flint's, written in pure and readable English.

The second part of the book is devoted to the diagnosis of diseases affecting the respiratory organs; and here are carefully considered the physical signs which present themselves in each disease. The chapter on Pulmonary Tubercle forms a noteable feature in this work, and is replete with interest.

The work is well and handsomely got out, being in H. C. Lea's best style.

PERISCOPIC DEPARTMENT.

Surgery.

HOW SHOULD GUN-SHOT WOUNDS PERFORATING THE KNEE-JOINT BE TREATED?

By Julian J. Chisholm, M.D., Professor of Surgery in the Medical College of South Carolina, U.S.A.; formerly Surgeon in the Confederate Army.

As a rule, gun-shot wounds perforating the knee-joint are so fatal under the usual methods of treatment that military surgeons are seriously embarrassed in selecting a course from which they might hope for a successful issue. In European army experience such cases do very badly, whether left to themselves, or whether operated upon by amputation or excision. In by very far the majority of cases the patient dies, proving, as the result of experience, that gun-shot wounds perforating the knee-joint are among the most fatal wounds of the battle-field. In the large experience gathered from five years' war in the United States, it would appear as if the previous reports of European army surgeons had been confirmed, and that amputation of the thigh in recent perforating wounds of the knee-joint offered the best means of saving life. In recent years resection or excision of the heads of bones crushed or injured by a ball has been urged as a substitute for amputation, and unfortunately in both the Federal and Confederate armies resections became too much the fashion, many lives being sacrificed to this modern operation. Every joint, and nearly every long bone of the extremities, was freely excised, often, as in the shoulder and elbow, with the best results; but in the shafts of long bones disastrously, and in the knee and hip-joint with the most fatal consequences:—

Federal Army Reports to July, 1864.

	Mortality.
Primary excision in the shaft of the femur	84 per cent.
Primary excision of the knee-joint	90 "

Confederate Army Reports to February, 1864.

	Mortality.
Primary excision of the knee-joint	75 per cent.(a)

Where amputation was resorted to as the remedy for gun-shot injuries perforating the knee-joint, the results were as follows:—

(a) This percentage would have been larger had all the fatal cases been reported.

Federal Army Reports to July, 1864.

	No. of cases.	Mortality.	Per cent.
(b) Amputation through the lower third of femur..	243	112	46

Confederate Army Reports to February, 1864.

	No. of cases.	Mortality.	Per cent.
(b) Amputation through the lower third of femur..	259	126	46

These results of amputation in the lower third of the thigh for injuries of the knee-joint are so satisfactory that where the tissues about the articulation are much lacerated, or the bones much crushed, amputation will always be resorted to. But there is a class of cases in which the perforating injury to the joint appears trivial,, or in which the bones are to no great extent injured, and in which the surgeon can with difficulty overcome the patient's abhorrence to an amputation. Under these conditions, the experience of Confederate surgeons in attempting to save the limb gives so satisfactory a result, that it becomes a question whether conservative surgery may not be more extensively used for gun-shot wounds of the knee-joint than it now is.

The following table was compiled from Confederate army reports:—

	No. of cases treated.	Cures.	Deaths.	Per cent. of Mortality.	Average duration of treatment in fatal cases. No. of days.	Longest period. No. of days.	Shortest period. No. of days.	Average duration of successful treatment. No. of days.	Greatest period. No. of days.	Least period for cure No. of days.
Knee-joint perforations without amputation (c).....	103	50	53	52	40	163	15	166	285	96

(c) A very much larger number of cases had been reported by Confederate surgeons, but these reports had not been examined or their contents collated when the above tables were compiled. These only include such as had their termination satisfactorily traced in February, 1864.

It may be argued that the successes exhibited by this table must be partially attributed in many cases to the trivial character of the injury, which could not have implicated the cavity of the articulation. An examination into the duration of treatment of the successful cases gives an average of 166 days, the shortest period of successful treatment being in only one case 96 days, which of itself marks in the strongest terms the very serious character of the least dangerous case; clearly proving

(b) Only such cases are engrossed in these Reports as had been traced to their termination at the date of the Report; the many cases not discharged from hospital are not incorporated.

the suppuration and the too much to be dreaded suppurative synovitis. Simple flesh wounds in the neighbourhood of joints heal usually without difficulty in two or three weeks. It may be presumed that most, if not all, of the cases of knee-joint wounds, retained for conservative treatment, were perforations by balls, without crushing of bones being detected. The surgical statistics of the Confederate army would warrant us in treating all such cases without amputation or resection of the heads of the bones forming the joint. For the successful treatment, the patient should be kept as quiet as possible, in a well ventilated ward or tent, with his nervous system kept at the least stage of irritation by the continued administration of opium. The general condition of the system is to be constantly watched, excretions promoted, and such tonic and supporting remedies administered as will control the circulation, increase the tone of blood-vessels, and moderate inflammatory action. The most conspicuous of these elements of medication are opium and iron. The limb should be kept at absolute rest, which can be best insured by securing it to a posterior splint, extending from the buttock to beyond the heel. To the surface about the joint are continuously applied cold evaporating lotions, of which iced water is the simplest and best. This, however, can be medicated so as to increase the evaporation and the refrigeration of the external articular surfaces. As soon as the swelling, redness, and pain in the superficial structures with systemic irritation indicate synovitis with suppuration, the joint should be freely laid open, the articulating cavity fully explored, and all the fragments of bones or foreign bodies removed, and a free outlet given to the purulent discharge. It is from the apparently bold surgery of opening freely the joint that the best results are obtained. During the entire treatment of the suppurative stage the best antiphlogistic remedies are found to be nutritious food and the free use of alcoholic stimuli.

In cases in which there was excessive engorgement of the limb, with a general suppurative disposition which, when it occurred constantly, foreboded evil, the most satisfactory results were obtained in a few cases in which the excessive circulation in the limb was suddenly checked by the ligation of the femoral artery. Surgeon Campbell, who introduced this practice into the Confederate military hospitals, considers it a safe and powerful antiphlogistic remedy. The previous development of vessels under inflammatory progress insures the limb against mortification; whilst the control of the circulation from the ligature will in thirty-six hours so reduce the size of the limb and arrest profuse suppuration as to change completely the aspect of the member.

Should the ball in the passage through the knee have crushed the

heads of the bones, and the case be deemed too serious to warrant treatment without an operation, the experience of both Confederate and Federal army surgeons unanimously condemns primary resection of the knee-joint. In every such instance the life of the patient can best be preserved by amputating through the lower third of the thigh, an operation which army experience proves to be preferable to disarticulating through the knee-joint.

Primary resection of the knee-joint is so disastrous as a field operation, that it should be discarded from field practice by army surgeons.—*London Medical Times and Gazette.*

WHEN ONE EYE ONLY IS BLIND, IS IT PRUDENT TO ATTEMPT TO RESTORE THE SIGHT WHILE THE OTHER REMAINS PERFECT?

By Haynes Walton, F.R.C.S., Surgeon to the Central London Ophthalmic Hospital, and to St. Mary's Hospital.

This is a question that is put to me many times in the course of a year. I gather from my intercourse with Professional men that there exists an impression against interfering, although I could never discover among them any sufficient grounds for the opinion, nor indeed collect any data. The idea seems to have come down traditionally from an age when ophthalmic subjects were but little understood. I have sought in vain for any definite rules among the treatises on the eye by our countrymen. What is the opinion of the Surgeons of the present, who are fitted by their connexion with Ophthalmic Surgery to speak authoritatively, and who have no doubt examined the question, I do not know. I could wish to have the opinions of each of them all as they exist at this moment, and to hear such in its genuineness, without the influence, bias, or effort inseparable from a discussion. There is a necessity for me to have some definite rules to act on. The exercise of my calling demands them. My patients, too, seek for them. In discussing the subject, there are facts to be recognised, conditions and circumstances to be considered. There must be reviewed the physical causes that render the eye useless, the operations that are needed, and the probability of the result, and the quality of the sight that may be restored.

It may be stated in general terms that a person who has lost an eye, besides being blind on one side, has but a very limited field of vision for near objects beyond the centre of the face, and which angle is regulated by the degree of prominence of the nose; that the definition of sight which depends on binocular vision is totally lost; that the power of accurately estimating distance is lost, and in consequence of this mistakes

are made in certain mechanical acts, as the pouring of a liquid from one vessel to another, although the vision is quickly rectified by touch. This defect may remain in degrees. Whether it is always entirely overcome by those who have lost an eye in infancy I do not know, for it has never occurred to me to ascertain. That with labour requiring minute sight there are more readily developed the many effects of impaired vision than when two are used, because the one organ cannot do the the work of the two. These are points that some one-eyed people are loth to confess, and they cannot be blamed for their caution. It is, therefore, apparent that an individual is the better for two sound eyes, and that that measure is admissible which, while it restores sight, does no harm elsewhere.

And here it is necessary to observe that nothing of value can be gathered from mere spontaneous expression of patients as regards the question, for they cannot understand the subject. Even more than this, when the data from which conclusions can be formed are set before them, they are as likely as not to act wrongly. The accepting or rejecting, then, of a proposal put to them, must be recognised only as a matter of will, which they have the power to exercise or not, and not as a valid opinion. I know of several persons who are now blind in both eyes because they cannot make up their minds to have anything done. Every Surgeon must have seen patients die rather than submit to any operation that would save life.

As the physical defects of the eyeball proper that need operation for the restoration of the function of sight are cataract, and the loss of the pupillary aperture, it is impossible for perfection to be restored. After the removal of cataract, peculiar glasses are needed. In the formation of an artificial pupil, the aperture must be either at the margin of the iris when the quality of the sight is lessened, or in the centre when the lens is absent, and minute use of the eye must depend on cataract glasses. Unfortunately, an eye cannot be fitted with a cataract glass, and brought up to a healthy state so as to match the other eye. The adjusting power is gone, and, for seeing at different distances, glasses of different foci are needed. Therefore arises this important consideration on which the whole matter hinges. Will this kind of sight, which must be inferior to that of the other eye, and at times in marked degrees, be really of material service? It may be premised that, if a Surgeon is to answer from his own knowledge and experience, a long time is required to gather facts and dates; and, to avoid errors, the patients should be watched for years. I speak then from what I have seen, and say yes. I should be deterred from operating only by the probability of the eye being too much damaged to give that amount of sight which is known as useful

sight, on which point much discrimination and a long familiarity with ophthalmic Surgery are imperative. I have made lateral pupils, the crystalline lens being present, and central pupils, the lens being absent. I have selected those cases only in which I was as sure as I could be that the fundus of the eye was sound, and the retina unimpaired, and the other conditions such as would insure the best amount of sight to be derived from such an operation. I place stress on this; for without it, without useful sight can be fairly expected, I would not operate. The false pupil I have invariably made either upwards or downwards, never inwards or outwards, on account of the double vision which would probably ensue. In every case decided benefit has followed. Side-blindness has been removed, and direct vision assisted; in those cases in which the lens was present there has been restoration of the ocular adjustment. I am giving general results, and avoiding minute detail. My last patient was operated on at the Central London Ophthalmic Hospital in September of this year. He was a soldier in a hussar regiment, and was acting as groom to a captain. When he was sent to me I found that there was a dense central corneal opacity with prolapse of the pupil, almost the whole pupillary margin being adherent. I made an upward pupil by drawing out a bit of the iris and cutting it off. Mr. Wilkinson and Mr. Taylor, my colleagues, assisted me. Perfect success ensued. My patient was highly delighted at the addition to his vision and in the improvement in the focussing power of the eye. He was particularly proud of his distant sight, but he could, too, read quickly No. 9 of Jaeger's test type. There was not the slightest confusion in vision. His master, who examined him with care, wrote to thank me for the result, and enclosed a donation for the Hospital.

In every case in which I have made a central pupil after the loss of the lens, the patients have expressed their satisfaction and pleasure at the benefit they have received. I am certain, therefore, from the result of practice, of the advisability in certain cases of making a false pupil when one eye is sound. It would seem that confusion of vision does not, and is not likely to, ensue when there is perfect vision in the one eye. This agrees with the fact that in "colomba iridis" in one eye no confusion follows. I have a far more extended experience in operating when cataract affects only one eye. In the cases selected for my trial and observation, I was quite sure that the other eye was sound and not invaded by cataract.

In nearly all, my patients were under adult age; a few were young adults, and two were past sixty years of age. I will allude to five of them specially, because they were in private, were persons of intelligence, and

all were seen several times after they had left me as patients. One was a well-educated, clever publican, about thirty-two years of age. Cataract formed without any apparent cause. I operated by solution. No better result could have been obtained. The last time I saw him he assured me that he was as pleased with the new eye as ever. He said, " The more I think of it, the more satisfied I am. I no longer run against people and things."

Another was a master builder, 26 years old. His cataract was idiopathic. He sought treatment because the blindness on the one side was " the plague of his life." The result of the operation enabled him, as he expressed it, " to get on better with his business."

The third patient, about 40 years of age, was a clerk in a house of business. His disease was idiopathic. He was fully satisfied. He found the benefit he had been told he might expect.

The fourth was a governess. She came to me several times to show herself after my Professional attendance had ended. She was well pleased at what had been done.

The last was a guard on a railway. He was 30 years of age. The eyeball was wounded by a splinter of wood, and cataract ensued. Since my operation he has been able to attend to his work satisfactorily. Before I operated he frequently blundered, and his defect was apparent to others.

As, then, the evidence which I have collected establishes the propriety of endeavouring to restore an amount of sight less than the standard of health in the one eye, while the other is healthy, I advocate such practice when my opinion is sought. When a child with a wounded eye and an opaque lens is brought to me by his distracted parents, anxiously asking what can be done, I set before them the state of the case, and recommend the removal of the cataract.

After 50 years of age, when, as a rule, the operation for solution is no longer applicable, because the lens is harder and the operation for extraction is the more proper, circumstances are somewhat altered, and the opinion I give a patient is modified, and for this reason. The operation for solution being so very safe, I can with confidence promise success to my patient, if time be allowed me. Extraction is attended with risk of failure. Although I suspect, from all I can learn, that I get as good results from this operation as my neighbours, I know that I cannot get the success that I can command in solution. Then there is one more degree in the quality of restored sight in the extraction cases. The sight may be very good or very inferior, although the term success is applied to all. Added to this, when a person is old, he has pretty nearly done with the

active affairs of life, and he can then get on tolerably with one eye. I endeavour to do my duty in explaining all this to a patient—adding, "If nothing untoward happen, you will be the better for the operation; if it do, you will be none the worse as regards the other eye"—and leave him to determine between the unpleasantness of the operating process and chance of failure, and the probability of success and the addition of a certain amount of sight.

It does not come within the scope of this paper to entertain the question of the removal of a cataract to improve the appearance, nor in early life to prevent a squint.

MODIFICATION OF SYME'S AND PIROGOFF'S OPERATION.

Dr. Post, on behalf of Dr. Isaac Quimby, of Jersey City, exhibited the result of a new operation, in the person of a lad aged about ten years, whose foot had been badly crushed some four months ago. The operation may be described as follows:—A curvilinear incision is made across the dorsum of the foot, commencing anterior to and about an inch below the internal malleolus to a corresponding point on the opposite side, and these are connected on the sole of the foot after the method of M. Pirogoff. After forming the anterior flap and turning it back, the astragalus is carefully dissected from its attachments, care being taken to keep close to the bone. Then forming the posterior flap from the sole of the foot, and keeping close to the bone, the anterior half of the calcaneum is dissected out. This being done, and the soft parts being well retracted by an assistant, the saw is applied so as to remove the anterior half of the bone; then, after rounding off the sharp edges of the bone, and removing any spicula, the posterior half of the bone is applied directly to the articular surface of the tibia. After stitching up the flap in the usual way, a strip of adhesive plaster, three inches in width, extending from the upper portion of the gastrocnemius muscle to a corresponding point on the anterior surface of the leg, and passing directly over the os calcis, keeps the flaps closely and pretty firmly in apposition to the articular surface of the tibia. The plaster is kept there until union between the bones has taken place. The adhesive plaster and the manner of using it is regarded as a very important auxiliary in the treatment, as it effectually prevents the retraction of the muscle of the calf and the gaping of the wound. In the present case the patient was able in six weeks to bear some weight upon the stump, in two months could walk quite well, and in three months was going to school, running and playing with the rest of the boys, with but very little apparent

inconvenience, and without any artificial assistance from crutch or cane. The first advantage of this operation over any other at the ankle-joint is, that the vascular relations of the principal flap are much less disturbed, and there is therefore less danger of sloughing or of tardy and imperfect healing of the wound. The second advantage is, that the integrity of the tibia and fibula is preserved, and there is on that account a better chance for the growth and development of the limb in young subjects. The third advantage is, that the length of the limb, from the hip to the heel, is diminished to so slight a degree that the difference is scarcely appreciable.—*New York Medical Record.*

RADICAL CURE OF HERNIA.

By Joseph Fayrer, M.D., F.R.S.E., Professor of Surgery in the Calcutta Medical College, and First Surgeon to the Medical College Hospital.

I have not yet met with any account of the post-mortem appearances in a case where a successful operation for the radical cure of inguinal hernia has been performed, nor am I aware that there is any such case on record. Having recently had opportunity of examining the body of a man who died from the results of an accident three months and seven days after undergoing this operation, I made a careful examination of the parts, and now have the satisfaction of recording the evidence of complete success.—

J. B., aged 20, a very healthy French sailor, of short stature but extraordinary muscular development and power, was admited into my ward in the Medical College Hospital, on the 28th December, 1865, with an inguinal hernia on the right side. It descended into the scrotum when he stood up or made any effort. He said that the hernia was caused by lifting a heavy spar on board ship about a month prior to admission. When he was engaged in raising the spar, he experienced a sensation of something having given way. A tumour appeared in the site of the rupture, which subsided and reappeared. The erect posture, or the exertion of walking, invariably caused the descent of the gut into the scrotum.

On January 1, 1866, the operation for the radical cure of inguinal hernia was performed with the wooden plug and ligatures. On the 4th, at 8 a.m., free suppuration having occurred, the plug was withdrawn. There was no constitutional disturbance, and on 16th it was reported healed, and, with a pad and spica bandage applied, he was able to walk about. The invagination, up to this period, had remained

firmly in the canal. On the 24th he was put to a variety of tests, such as lifting weights, jumping, climbing up a pole, but the hernia did not return. On the 29th he was discharged apparently cured, after remaining under treatment for about twenty-nine days.

I lost sight of him from this date, but once meeting him in the street, some time after his discharge from Hospital, he said he was quite cured, and free from any signs of rupture.

On April 27, 1866, almost three months after his leaving my ward, he was re-admitted in a sad state of drunkenness, and much injured by a fall from a house. He had fractured the left angle of the lower jaw, and frightfully bruised his head, face, and body generally. The right femur was dislocated into the ischiatic notch, and the gluteal region, as well as the whole of the limb, was much contused and swollen. I observed at the time, in his condition of semi-consciousness, when struggling from pains and restlessness, that the hernia did not protrude. There was no trace of the invagination left. A small cicatrix in the abdominal wall, and another in the scrotum, were the sole indications of the passage of the needle.

The following day, when he had somewhat recovered from the intoxication and shock of the accident, I reduced the hip dislocation. It was evident that there had been much laceration and injury of the soft parts, for the head of the bone could not be retained in position. Pyæmic symptoms set in, and a large abscess formed on the anterior and upper part of the chest. The gluteal region, thigh, and leg passed into a state of diffused suppuration, and the whole limb became infiltrated with pus. Pyæmia was rapidly developed, and he expired of exhaustion on the night of May 7.

Post-mortem examination eight hours after death, or on the morning of May 8, revealed extraordinary mischief. The limb, pelvis. hip-joint, and thorax were more or lesss infiltrated with pus. The head of the femur was dislocated from the acetabulum; the muscles and ligaments were much lacerated across. On opening the head, a clot as large as a hazelnut was found in the grey matter of the superior and posterior portion of the right cerebral hemisphere. As there was no contusion over the site of this clot, it was conjectured that it might have resulted from *contre-coup* of the violence which broke the angle of the jaw on the opposite side. I examined the seat of the former hernia, and of the operation by which it had been cured, most carefully, and the result was most satisfactory; for it was clearly proved that the cure had been radical and complete. On the integument of the abdominal wall, just over the internal ring, there was a small, slightly depressed, but perfect, and quite

movable cicatrix. This indicated the point where the needle had emerged and the ligatures had been tied. There was a similar cicatrix on the scrotum, indicating the spot at which the invagination had been formed and the needle entered. It is to be noted particularly that no trace of the invagination remained. On reflecting the integument, there was some slight adhesion and thickening of the areolar tissue and fascia where the needle had passed. The two layers of fascia covering the inguinal canal were found to be strong and well developed, and slightly thickened at this point. The aponeurosis of the external oblique was then examined. The external abdominal ring was tolerably well defined; the cord was covered by a strongly developed intercolumnar fascia and cremaster, with the blending of the remains of the hernial sac; the cord and testicle were perfectly healthy; the margins of the external abdominal ring were perhaps not quite so clearly defined as in the natural state, but there was not much change. On slitting up the inguinal canal from towards the point of the hip, the tendon was found to be adherent to the internal oblique at a point corresponding to the track of the needle; the lower margin of the internal oblique and transversalis muscles were universally adherent to Poupart's ligament, and the cord seemed rather to pass through than under them; the connexions of the cremaster with these muscles appeared more distinct than usual. On turning down the abdominal wall to examine the internal ring from the inside, the usual depression was observed well marked; the peritoneum around the ring was thickened and firmly attached, sending a prolongation or infundibuliform process through it, which became blended with the cord. Doubtless this was the remains of the hernial sac. The opening was hermetically closed by firm and strong fibrinous bands of adhesion, which crossed it and became blended with the transversalis fascia. This was very strong; in short, the closure of the internal ring was so perfect that it was completely protected against the passage of anything through. The testicle and the component parts of the cord had not sustained any damage whatever; the epigastric artery was also uninjured.

Remarks.—The appearances in this case prove that it is not necessarily to the invagination that we must look for the occlusion of the peritoneal opening, but rather to changes in and about the aperture itself, or in the parts which pass through it. The internal abdominal ring in this case was found to be completely closed by organisation of inflammatory exudation, and by the consequent fusion of this with the peritoneum, transversalis fascia, and cord, into a comparatively dense tissue, which not only occluded the opening, but rendered it more firm and yielding than in the natural state. It was certainly remarkable how very little the natural rela-

tive position and appearance of the parts were otherwise altered. Not a trace of invagination remained, and beyond the complete occlusion of the internal abdominal ring, and the prolongation of the peritoneum in the form of an infundibuliform process into the inguinal, where it terminated and became blended with the tissues of the cord near the external ring, there was little or nothing to mark any difference from the natural condition of the parts. It is evident that the needle, in perforating the abdominal wall from the apex of the invagination, must have passed through, or underneath, the margin of the internal ring, and that in all probability the peritoneal sac was perforated, unless indeed the sac had been pushed aside by the invagination of adhesions which have so effectually shut up the ring as to render a recurrence of hernia well nigh impossible. The history of the poor fellow's case proves that this was really the fact, for he was exposed to all possible causes that might have brought back the hernia had the cure not been completely accomplished. He lived a life of uninterrupted debauchery, and exposed to all kinds of physical privation. He wore no truss, though provided with one on leaving the Hospital. He fell from a house, and neither the muscular exertion consequent upon this, nor his struggles during intoxication, and the subsequent suffering he underwent for the reduction of the dislocation of the head of the femur, sufficed to cause a recurrence of the hernia. I observed on his re-admission that though he rolled about and struggled much in bed, there was not the slightest tendency to a return of the hernia; and when he recovered from the intoxication his constant request was that I would cure him of this accident as thoroughly as I had done of the hernia. It is evident from this case that an essential condition of success is to invaginate the portion of scrotum so effectually that when the needle perforates the abdominal wall it shall pass close to, if not through, the internal abdominal ring. As noted in the examination after death, the internal epigastric artery seemed to have escaped, notwithstanding the proximity of the needle to it; and I think that even if it had been wounded there would not have been much additional danger, as the immediate tightening of the ligature would have the effect of preventing hæmorrhage I have already, in the *Medical Times and Gazette* (p. 193, August 49, 1865), described the operation and the instruments with which I perform it.

Calcutta.

RECOVERY FROM TRAUMATIC TETANUS.

Clinic of Prof. Gross, Philadelphia.

Wm. H., æt. 21. This case is an extraordinary one. Prof. Gross saw him in consultation six weeks ago. Two weeks prior, the patient

had had the misfortune to break his little finger, between the tongue of a hose carriage and the wall of a house. An attempt was made at conservative surgery. At the expiration of a fortnight symptoms of tetanus supervened. When Prof. Gross saw him several days after, he found him with a wedge between his teeth, to prevent injury to the tongue, and enable him to swallow such food and medicine as were ordered. His head was thrown back, and he was an object of great suffering and commiseration. He could not lie down at all, day or night, for two weeks; at the very moment his head touched the pillow he was thrown into violent spasms. He had little or no appetite, and considerable thirst. Prof. Gross saw him in consultation every other day for a while, and at last twice a week for upwards of a fortnight. Finding that the finger was a source of great suffering, it was removed at the second visit, and the whole limb wrapped up in a strong solution of sugar of lead and opium, under the influence of which, and constitutional means, the inflammation rapidly subsided, the swelling and pain disappeared, and the limb became comparatively comfortable. Internally, he took one-half a grain of morphia, some three or four times in the twenty-four hours, along with quinia, the tincture of the chloride of iron, and nutritious food, in the form of beef essence, together with an abundance of milk punch. Gradually, the tetanic symptoms subsided, and ultimately, they entirely disappeared. He has now been perfectly free from them for three weeks next Saturday. He has improved in flesh, sleeps well, and has a good appetite.

Traumatic tetanus is usually fatal at a period varying from a few days to several weeks. Only two other cases have been seen to recover by Prof. Gross. One was that of a man in Kentucky, who had the misfortune of injuring one of his fingers. After the symptoms of tetanus supervened, Prof. Gross was called to see the patient. Amputation was performed, and he was put on local and constitutional treatment, of a character similar to that of the case just referred to; and although the symptoms lasted for a week longer, yet the man got entirely well. The other case occurred in a little child, living a few miles back from Louisville, who, in falling from a fence received a punctured wound, by coming in contact with a splinter, which entered the face below the eye. Symptoms of tetanus soon after made their appearance. When Prof. Gross was called to the patient, they had been in progress a number of weeks. An excision was made, the splinter extracted, and the child made an excellent recovery.—*Philadelphia Med. and Surg. Reporter.*

Midwifery and Diseases of Women and Children.

OVARIOTOMY: PEDICLE SECURED BY SILVER WIRE AFTER THE FAILURE OF THE ACTUAL CAUTERY TO ARREST THE HÆMORRHAGE.

By J. Marion Sims, M.D., Knight of the Legion of Honour, Physician to the Women's Hospital, New York, Honorary Fellow of the Obstetrical Society of London, &c.

Mrs. D., aged 52, an American lady, residing at Paris, the mother of six children, had always enjoyed good health till the spring of 1865, when she had occasional attacks of nausea and vomiting, which she thought might be due to change of life, as menstruation then began to be irregular. The nausea continued in spite of remedies; and she consulted Dr. Arnal about twelve months ago, who diagnosed an ovarian tumour on the right side. In February last, she consulted Dr. Trousseau. In March, she sent for Dr. Beylard, her regular medical attendant, who again called Dr. Trousseau in consultation. From this time the abdomen grew rapidly larger. In May and in August, she saw Dr. Velpeau in consultation with Dr. Beylard. The tumour was then very large. She vomited almost all her food, and was emaciating very rapidly.

Dr. Beylard asked me to see her on November 9th. She measured fifty-three inches around the abdomen, and twenty-three inches from the ensiform cartilage to the pubes. I diagnosed a multilocular ovarian cyst, probably without adhesions, and advised its extirpation as the only hope of a cure.

The operation was performed on Sunday, Nov. 18th, at the Hôtel du Pavillon de Henri IV. at St. Germain. I was assisted by Drs. Beylard, Johnston, Darby, Buckler, Lailler, and Thierry-Meig. Dr. Beylard administered ether. An incision, three inches long, was made in the usual way through the abdominal walls, and the cyst was exposed. The trocar was introduced, and emptied one of its largest compartments of about ten pounds of a dark brown serous fluid. Five other compartments of the cyst were in turn punctured; but in two of them the fluid was too thick to flow through the tube of the trocar. The other three gave vent to about twenty pounds more fluid. To expedite the operation, the external incision was enlarged to the extent of five inches, which allowed me to extract the remainder of the tumour *en masse*. It was attached to the right broad ligament. The pedicle was short and broad. When spread out in the clamp, it measured four and a half inches in width. Its veins were large and tortuous. It was severed by the actual cautery, according to the plan of Mr. Baker Brown.

On removing the clamp, blood began to ooze from the end of the line of cauterisation farthest from the fundus uteri. The bleeding seemed to be chiefly from the open mouths of the large veins. An inch of tissue, including the veins, was encircled in a loop of silver wire, which was drawn tightly, twisted firmly, and cut off close to the twist. The mere mechanical manipulations of doing this unfortunately tore open the whole extent of the line of cauterisation, and blood oozed out from every part of it. To secure this long line (nearly four inches) of bleeding surface, it was necessary to introduce five other loops of silver wire, embracing as many segments of the bleeding pedicle, each of which was twisted separately and cut off close, as before described. The uterine artery spouted furiously, and required a special ligature. After the bleeding was wholly controlled, the pelvic and abdominal cavities were thoroughly cleared of the fluid that unavoidably emerged into them, and the external incision was closed by a continuous suture of silver wire. The whole of the peritoneal membrane, whether lining the walls of the abdomen or investing the intestines, was deeply congested, and had a red granular appearance. The tumour had no adhesions; and, notwithstanding the appearance of the peritoneum, there was no unusual amount of serum in its cavity. She was fully under the influence of ether only during the early period of the operation, and recovered easily from its immediate effects. Reaction was established in two hours with a pulse at 108, which at midnight fell to 96. She vomited only twice during the afternoon, and was wholly free from pain or suffering of any kind.

About two hours after the operation, the urine (fourteen ounces) was drawn off by the catheter; but after this she passed urine spontaneously and freely. The bowels were moved spontaneously on the third day. She slept every night without anodynes; and took nourishment with a relish from the first day.

There was nothing whatever worthy of remark during the convalescence. The external wound healed perfectly by the first intention. The silver sutures were removed on the tenth day after the operation. She sat up and walked across the room on the eleventh day, and on the twenty-second day she returned to her house in Paris perfectly well.

The solid part of the tumour removed *en masse* weighed eleven pounds, and the fluid thirty-two pounds. Dr. Johnson and others present estimated the loss of fluid during the operation at eight or ten pounds. The whole amount was probably near fifty-pounds.

In one of the cysts the fluid was straw-coloured, in another coffee-coloured, and in one it was as dark as sugar-house molasses; in others it was of the consistence of jelly.

The operation of removing the tumour lasted twenty minutes, and the time taken in securing the pedicle was about twenty minutes more.

Ever since the first introduction of the use of silver sutures in 1849, I have advocated the application of the metallic ligatures to the pedicle in ovariotomy. In 1858, this view was held forth in my paper, "Onr Silver Sutures in Surgery." Since then, I have carried it out in practice.

Dr. Nélaton performed the operation of ovariotomy in Paris in May, 1864, on a patient of Sir Joseph Olliffe, and kindly allowed me to secure the pedicle with silver wire. It was transfixed by a double wire, which was cut in two, and each half was twisted tightly on opposite sides of the pedicle. This was then cut off near the ligatures and returned into the cavity of the abdomen, and the external wound was closed by silver sutures. Unfortunately for the poor patient, she died on the fifth day after the operation, of blood-poisoning from peritoneal exudation. But, fortunately for science, a *post mortem* examination showed the metallic ligatures entirely embedded in the tissue of the pedicle, and so perfectly sacculated that I was obliged to cut into its structure to find them.

The wire had cut into the tissue, and this had healed behind its track, and thus it was wholly covered up and hidden from view. I was able to foretell what would be its method of action by observation from analogy. In 1850, by means of a silver wire, I made the effort to strangulate a warty excrescence on the cheek of a lady sixty years old. It was of about the size of the end of the little finger, and projected at least half an inch above the surface. It was hard to the touch, and of a reddish tint. On tightening the wire at its base, the top became of a deep purple colour, showing that its circulation was momentarily arrested. On visiting my patient the next day, I was surprised to find the excrescence of its original colour, without the least sign of a disorganising process. On the contrary, its circulation was going on as vigorously as before the application of the wire. On a minute examination, I found that the wire had cut a bed for itself entirely around the structure embraced, and that the tissue so cut had overlapped the wire and healed over it, thus encasing or sacculating it completely, and this within the short space of twenty hours. Of course, it was a mistake to apply the wire at all with the idea of producing a slough, and it was clipped and drawn out.

Notwithstanding this lesson, I made the mistake again of applying a silver wire to a hæmorrhoidal tumour with the expectation of strangulating it. The strangulation was only momentary; for, two days after the operation, I found the hæmorrhoid presenting almost the identical ap-

pearance that it did before the operation, while the wire was partially embedded in its structure and securely held there by a circulating process such as that described in the case above. The experience gained by these two experiments gave me the idea of applying the wire to the pedicle in ovariotomy, and of explaining its probable action; while the fact observed in the case of M. Nélâton and Sir Joseph Olliffe demonstrated the truth of what was so naturally inferred.

It was a great improvement in the operation of ovariotomy, when, a short time ago, the pedicle was drawn out and secured by a clamp externally to the abdomen, instead of being tied with a cord, as formerly, which was then allowed to hang from the lower end of the external wound, thus acting the part of a seton and exciting the action which it should have been our object to prevent. But I think a still greater advance is made, when we can secure the bleeding pedicle in such a way as safely to replace it within the abdominal cavity, and thus allow the external wound to be healed throughout its entire length by the first intention.

For this desirable end we now have two methods: the one of treating the pedicle by the actual cautery, so successfully practiced by Mr. Baker Brown; the other by means of the metallic ligature.

The actual cautery does not always succeed; and the case above described clearly proves that we have a safe and sure resource in the silver ligature.

At a recent discussion at the Obstetrical Society in London, the fact was elicited that the actual cautery failed to arrest the hæmorrhage in one-fouth of the cases operated upon by this method by Mr. Harper. It is well to know this, and to be prepared for such a contingency.

In Mr. Baker Brown's last thirty-nine operations he has used the actual cautery, and has lost but five cases.

I am well satisfied that the actual cautery and the metallic ligature are at present our safest means of securing the pedicle in ovariotomy.

No surgeon can expect to perform this operation successfully who is in the constant habit of making dissections or *post mortem* examinations, or dressing erysipelatous or other poisonous wounds. And it is quite as essential that each of his assistants, even the meanest sponge-washer, should be as clear of all contaminating influences. Mr. Spencer Wells, M. Maisonneuve, and others, have observed that very many deaths after this operation are due to blood-poisoning, as a consequence of a sero-sanguineous exudation into the cavity of the peritoneum. When this is the case, the proper course is to puncture the peritoneal cavity through the posterior vaginal *cul-de-sac*, evacuate its contents, and keep it drained

and even washed out. This idea and operation are due to my distinguished countryman, Dr. Peaslee; and I believe it has been carried into practice also by Mr. Spencer Wells.—*British Medical Journal.*

CASE OF OBSTINATE VOMITING, CONNECTED WITH THE PRESENCE OF A FOREIGN BODY IN THE UTERUS.

By James Blake, M.D., Professor of Obstetrics and Diseases of Women and Children in Toland Medical College, San Francisco.

Dec. 18.—Was called to see Miss C., æt. 22, at 1 A.M. When I arrived, I found she had been suffering from constant vomiting for the last three days, for which she had been treated homœopathically, with the usual result; nothing was retained on the stomach, not even a drop of water or ice. There had been no sleep for the last three nights; in fact, the efforts to vomit never remitted for more than five minutes; nothing, however was brought up except a little water or mucus. Expression of countenance haggard; tongue clean; skin cool; pulse 80, soft and weak; no pain except that caused by vomiting. I learned that the lady had been in ill health for several months, and that she had been treated for uterine disease. Ordered external application of turpentine over the pit of the stomach; chloroform, gtt. vj.; morph. sulph., gr. $\frac{1}{4}$; to be repeated every hour until the vomiting ceased.

10 A. M.—The first dose of the medicine quieted her, and she slept for a short time. A second dose was given at the end of the first hour, although there was no vomiting, and a third dose an hour afterward. This was rejected, and since then the vomiting has been as bad as ever. Ordered oxalate cerium, gr. iij., every hour. The mixture with chloroform and morphine to be repeated after four hours. As the bowels had not been moved for three days, I ordered an enema with castor oil and turpentine, to be followed, after its action, by one containing half a drachm of laudanum.

4$\frac{1}{2}$ P. M.—Much the same—patient getting weaker. As I was convinced that the vomiting was uterine, and the condition of the patient was such as to cause anxiety, I took an opportunity of inquiring as to the possibility of pregnancy existing, explaining my reasons for so doing. This was indignantly denied. I ordered brandy and soda water; enema with laudanum to be repeated.

19th.—Symptoms still the same; the laudanum enema had procured hardly any sleep; everything is rejected a few minutes after it is swallowed; patient getting weaker, having retained no food or even water on

the stomach for the last four days, during the whole of which time there has not been more than a few minutes sleep. I learned to-day that the vomiting had come on after she had had something done to the womb, which caused her much pain, and that the surgeon had introduced the speculum after he had once withdrawn it, in order, as he stated, to remove a piece of cotton he had left in the womb. Thinking that the vomiting was kept up by the presence of a foreign body, I made a digital examination to see if I could discover it. I found the neck of the uterus enlarged and inflamed, the orifice patulous, and the body retroverted and flexed; could feel no foreign body. As it was time for menstruation to come on, I did not wash out the uterus as I otherwise should have done.

20th.—Rather better; had slept about an hour, and vomiting not so constant when lying quite still, but the slightest movement or attempt to speak, or opening of a door, or even being spoken to, brings on vomiting. Pulse 78, weak; skin cool; nothing remarkable on the stomach. I ordered champagne and brandy; carbonate of bismuth.

21st.—Better; slept some two hours during the night. Can take raw brandy, although water she immediately vomits. States that when she feels the vomiting coming on, a tea-spoonful of raw brandy will check it. During the night there was a remission of the vomiting for three or four hours. Is better when lying on her right side; if she turns on her back, vomiting immediately comes on. Is now so weak that her voice is hardly audible. Ordered enemata of brandy and yolk of eggs. Menstruation came on last evening; had sharp, cutting pains at commencement, but was too weak to notice if any thing came away in the discharge, which is moderate.

For the next forty-eight hours the patient was kept alive by brandy and champagne, and nutritive enemata. It was not until the 24th that any food was retained on the stomach. At this time she was much prostrated, having been eight days without any food, during the greater part of the time with constant vomiting and loss of sleep. The pulse was 85, small and weak; skin hot and dry—probably from the stimulants.

From this time the patient gradually recovered, although it was three weeks before she had gained sufficient strength to leave her room. Menstruation lasted the usual time, but rather scanty. On making an examination per vaginam, about three weeks after menstruation had ceased, I found a piece of cotton in the vagina, such as used for applying caustic to the interior of the cervex: and I have no doubt but that this, whilst remaining in the uterus, had been the cause of the vomiting.

The above case affords a most striking example of the effect of mechan-

ical irritation of the uterus in producing vomiting, and would tend to show that where pregnancy acts as a cause of vomiting, the vomiting is owing to the mechanical irritation by the fœtus, and not to the changes in the uterine system accompanying pregnancy.

The purely reflex nature of the vomiting in this case is interestingly shown by the causes that would give rise to it: the slightest movement, the opening of a door, even speaking to the patient, would bring on an act of vomiting, just as the same causes would give rise to spasm in teta nus or in poisoning by strychnine.—*Pacific (Cal.) Med. and Surg. Journal.*

REMARKABLE CASE OF DELIVERY OF REMAINS OF FŒTUS PER ANUM

By John Lewis, M.D., of King William County, Virginia.

On the morning of the 19th of April, 1864, I was called to see a negro woman, between thirty-five and forty years old, said to be labouring under chronic dysentery. I found her feeble, very much emaciated, and confined to the bed. Upon enquiring into the history of the case, all the information elicited was, that she had been suffering, for several months, with chronic disease of the bowels, attended with frequent discharges of mucous, mixed with blood and purulent matter, with other symptoms, characterizing disease of the large intestines.

Of the previous treatment of the case, they were ignorant, and as the physician, who had formerly charge of it, had left the neighbourhood, I had no means of knowing. Suffice it to say, from the facts before me, I looked upon it, as a case of chronic disease of the large intestines. I directed milk toddy, made with brandy, and gave her some gentle astringent and anodyne. On the 21st ordered a small dose of ol. Ric. guarded by an anodyne.

On the 22nd I was called in great haste to see her. The oil had acted partially, and the rectum was nearly occluded by some substance. Upon introducing the finger, I detected a small piece of carious bone; this I believed to be the coccyx of the woman, in a necrosed condition, and removed it with some difficulty. Further examination detected a mass of bones wedged in the rectum. Introducing two fingers of the left hand, into the rectum, and separating the parts, by distending the sphincter as much as possible, (which fortunately, was considerably relaxed, and seemed to adapt itself to the circumstances of the case) at the same time, with a delicate pair of forceps, in the right hand, I extracted, what I immediately recognised as the parietal bone of a fœtus, and continued to extract a second parietal, the frontis, the occiput, the clavicles, humerus, femurs, &c., until the greater part of the most compact and hardset

bones of the skeleton were removed. This process was facilitated by injecting water up the rectum.

After this operation, for the first time, the woman told me she thought she had been pregnant the year before, and all symptoms had subsided, without giving birth to a child. The woman was thirty-five or forty years old ; had given birth to five children before, with as little inconvenience as most mothers.

In 1863, she thought she was pregnant, and gestation advanced as usual ; nothing to distinguish it from her other pregnancies. September was the ninth month ; during that month she was taken with rigor, a small discharge from the vagina, pains resembling labour pains, though not as severe as usual. This condition lasted for several days, and then all the symptoms subsided, the abdominal enlargement gradually disappeared, and her health was bad. Dysentery came on about two months before I saw her the first time.

After the removal of the bones she recovered rapidly, and by the 28th of April I discharged her as entirely convalescent.

The first piece of bone extracted, I thought was a portion of the coccyx of the mother, as it seemed to be attached. The other bones, before seeing them, I thought had been swallowed without mastication. I thought the bones indicated full development of the fœtus, from their size and compactness. The mother told me she thought she felt the motions of the child, as in ordinary pregnancy. I carefully preserved the bones, intending to exhibit them, and also to publish the case, but my house was visited by the raiders, and the bones, like many other articles of my property, were wantonly destroyed.

The woman, now nearly two years from the occurrence, enjoys good health ; has menstruated regularly since her recovery, but has not been again pregnant. She did not menstruate from the time of her supposed pregnancy, or during it, until after the removal of the remains of the fœtus.

After extracting the bones, I endeavoured to examine the rectum, in order to ascertain if there was a communication with the vagina or any other organ, without finding one, nor was there, at any time, fœcal matter voided through the vagina.

My opinion is, that it was a case of extra-uterine pregnancy ; it progressed to maturity, the fœtus being enclosed in a sack extemporised for the occasion ; delivery being impossible, per vias naturales, the fœtus died ; the soft parts were absorbed, leaving the bones of the fœtus ; adhesion took place betwen the sac and the colon or rectum, and finally, by sloughing of the parts, an opening was made, and the bones made their exit per anum.

Canada Medical Journal.

MONTREAL, FEBRUARY, 1867.

VACCINATION.

In our January number we published the report of the Public Vaccinators of the city of Montreal for the year 1866—a document worthy of serious consideration by the Health Committee of the City Council. We fear, however, that it will meet the fate which has befallen every report from the same quarter, viz: referred to the Health Committee, and never heard of more. It is a singular fact that the public loudly clamor for the adoption of sanitary measures upon the apparent approach of an epidemic, yet cannot be roused into action; but with folded hands, calmly looks on and sees yearly hundreds and hundreds consigned to their graves, who might have been spared, and been useful members of society. It is hard for the public to understand that many diseases are preventable; that many diseases that now weekly appear on the mortality sheet might be all but totally obliterated, if a thorough measure of sanitary reform was faithfully put into action. It is, however, especially with reference to small-pox that we would now write. No disease is more preventable, and none the means of preventing which are more easy. Vaccination has saved lives unnumbered, and yet the public look upon it with indifference, and our authorities take but little interest, even when told that in three years the mortality from the disease has been diminished from several hundreds yearly to half a hundred, this reduction being beyond a doubt due to the efforts of the medical men who hold the office of Public Vaccinators. The Vaccination Act, under which they were appointed, was passed in 1861; and instead of being made applicable to the entire Province, was made to embrace only the chief cities. This was, we think, a mistake, for we are satisfied that in the country, as a rule, less attention is paid to vaccination than in the city. Owing to the scattered character of country practice, it is difficult to keep up the supply of vaccine, and

when a demand is made on the city to supply the virus, owing to the appearance of the disease, often it is impossible to do so, and before the unvaccinated can be protected, it has gained a foothold, from which it only can be dislodged by a rigid system of vaccination and re-vaccination. Were the Act applicable to the country, the greatest benefits would result; but we can never expect the full benefits of the Act till an example is made of a few of those who, from sheer neglect, leave their children unvaccinated till they attain the age of several years. A clause which we would wish to see inserted in the Act, and we commend it to the attention of the Public Vaccinators of this city, is, that every child, on making application for admission into a school, whether public or private, should be examined as to whether it is thoroughly protected. If vaccinated before, and the cicatrice not be a good one, it should be again vaccinated, and if not previously done, should be subjected to the action of the virus. It was asserted by Jenner, and we believe the assertion is a true one, that when vaccination is properly performed, it gives the person a protection equal to what he would have against a second attack of the disease. A greater protection than this it is perhaps impossible to have, and it is certainly amazing that so many allow so many years to pass over the head of their children without having them vaccinated. Last year, in anticipation of a visitation from cholera, the public of this Province were aroused to use the most vigilant sanitary measures to prevent its approach, and we are thankful that we escaped the visitation; but thousands are annually sacrificed in Canada from small pox, with the power to prevent it in our hands, yet without a single public effort to prevent it. Unfortunately we meet with some, even in our own profession, who doubt the efficacy of vaccination. For their information, we copy the following table from a recent article in the *British Medical Journal*:

Periods compared.	Annual deaths by small pox in England & Wales.	Annual rate per million of population.
1. Average of 30 years previous to introduction of vaccination	——	3000
2. Average of 3 years (1838-40), when vaccination became established, but before it was gratuitous	11,944	770
3. Average of 9 years (1841-53), when vaccination was gratuitous, but not obligatory	5,221	304
4. Average of 10 years (1854-63), when vaccination has been to a certain extent obligatory	3,351	171

We cordially second the request that the Public Vaccinators make for an addition of twenty-five cents to the twenty-five they already

receive for each successful vaccination. We are well aware that the law only allows the latter amount; but when they have been as successful as their report indicates, and when the Council consider the trouble a proper performance of their duties give them, they must admit that the request they make is a reasonable one. Perhaps the suggestion made by the Montreal *Gazette* to pay each fifty pounds a year is as good a way as any of acceding to the request the Vaccinators make. We are not aware whether the other cities named in the Vaccination Act have put it into operation. If they have, we will be glad to learn with what results; if they have not, we feel they deserve severe censure, and call upon the profession in these localities to insist upon its enforcement.

DEATH FROM CHLOROFORM.

We notice a fatal case of chloroform inhalation which occurred at. Bellevue Hospital, on the 4th February last, the operator Frank H. Hamilton, M.D., Professor of Surgery at the medical school of the hospital. It appears that a woman who had lost her nose, and who had undergone a rhinoplastic operation, a month previously, was again submitted to the knife for the purpose of dividing the pedicle, the new nose having been as usual taken from the forehead. On the former occasion she had taken chloroform without any ill effects. The following extract is from the "New York *Times*" of February 7th. It is the evidence of the house surgeon and his senior assistant given at the inquest.

David M. Cory, M.D., testified: I am House Surgeon of the Third Surgical Division of Bellevue Hospital; I saw the deceased a few minutes after she was admitted, and she stated to me that her nose had been bitten off by a negro down town; I examined the wound, and found that the cartilages had been completely severed from the nose; on the 7th of January Dr. Hamilton performed an operation on her for the purpose of making a new nose. At deceased's own request she was placed under the influence of chloroform, and kept under it during the operation, which lasted about half an hour; on the 4th of February, the deceased was again taken to the amphitheatre and placed on the operating table for a second operation. By deceased's own permission *about half an ounce of chloroform* was poured upon a *folded towel, and held by* Dr. Walker about two inches from her mouth; a *second application* of chloroform was made in the same manner, lasting altogether about ten minutes, when deceased suddenly ceased to breathe; efforts were immediately made by artificial respiration, and cold water dashed upon the deceased to restore her; during these efforts several long inspirations took place; every measure was adopted that was necessary to restore her, but without any

favourable results; the deceased died in about sixteen or eighteen minutes after the chloroform was first administered; the chloroform was very judiciously administered, and was manufactured at the United States Army Laboratory, in Philadelphia, 1863; the ether was manufactured by Edward R. Smith, of Brooklyn. I was present at the *post mortem* examination; I didn't see any lesion that would be sufficient to cause death; in my opinion death was caused by the inhalation of chloroform; I am a graduate of the College of Physicians and Surgeons, and have been on duty at Bellevue Hospital as Surgeon and Assistant Surgeon for about ten months; I have administered chloroform thirty-five or forty times with no bad effects.

Henry F. Walker, M.D., testified: I am senior Assistant Surgeon at Bellevue Hospital; I graduated in March, 1866, and have been on duty at the hospital since April last; I have given chloroform as many as twelve or fifteen times, and ether about six times, without any unfavourable results; I administered the chloroform to deceased the second time, and with a great deal of care; I gave her about one drachm of the chloroform first, but the patient did not come under the influence of it; I then gave her ether for about two or three minutes; she did not come under the influence of that, and I was directed to replace it with chloroform; Dr. Cory poured *about half an ounce of chloroform on a folded towel*, and held it about two inches from her mouth; about *the same* amount was poured on the *towel a second time*, and she then came under the influence of it; the chloroform was then replaced by ether, and administered in the usual way. After these had been administered for one or two minutes, the patient stopped breathing suddenly, and efforts at artificial respiration were resorted to to restore her, and continued for three quarters of an hour. I was present at the *post mortem* examination, and examined the organs after they had been removed, and saw no lesions sufficient to cause death; in my opinion death was the result of the inhalation of chloroform.

We cannot but take exception to this method of administering chloroform, and must say, that if this is the rule adopted in the administration of the anesthetic in this institution, the wonder is that these fatal cases are so few. In our own Hospital in Montreal, we have had one or two fatal cases from chloroform inhalation, but every precaution is taken; the liquid when used carefully measured, and only one drachm used at a time. This is poured into a starched towel folded in the shape of a funnel with an opening at the small end of fully $2\frac{1}{2}$ inches diameter, so that the patient obtains a full and free supply of air mixed with the chloroform vapour. This takes up a little more time, but is far more safe.

We have received the following notification, or summons, of the American Medical Association, and publish it for the benefit of our readers. We regret exceedingly that we will not be able to attend this interesting meeting. We notice in the list of delegates the omission of the name of the delegate appointed to represent the College of Physicians and Surgeons of Lower Canada, Dr. William Marsden, of Quebec. This omission is due to the fact (we presume) of the Secretary of the College having failed to forward the name of their delegate. The request is made, as may be observed, by Dr. Atkinson, Secretary to the Association, that the names of delegates elected to represent medical organizations be forwarded without delay to the Permanent Secretary. We trust that our worthy Secretary of the College will comply with this request without further delay, as Dr. Marsden was elected their representative in October last:—

"The eighteenth Annual Meeting of the American Medical Association will be held in Cincinnati, on Tuesday, May 7th, 1867, at 11 o'clock A.M.

"The following committees are expected to report:—On Quarantine, Dr. Wilson Jewell, Pa., chairman; on Ligature of Subclavian Artery, Dr. Willard Parker, N.Y., chairman; on Progress of Medical Science, Dr. Jerome C. Smith, N.Y., chairman; on the Comparative Value of Life in City and Country, Dr. Edward Jarvis, Mass., chairman; on Drainage and Sewerage of Cities, &c., Dr. Wilson Jewell, Pa., chairman; on the use of Plaster of Paris in Surgery, Dr. Jas. L. Little, N.Y., chairman; on Prize Essays, Dr. F. Donaldson, Md., chairman; on Medical Education, Dr. S. D. Gross, Pa., chairman; on Medical Literature, Dr. A. C. Post, N,Y., chairman; on Instruction in Medical Colleges Dr. Nathan S. Davis, Ill., chairman; on the Rank of Medical Men in the Army, Dr. D. H. Storer, Mass., chairman; on Rank of the Medical Men in the Navy, Dr. W. M. Wood, U. S. N., chairman; on Insanity, Dr Isaac Ray, R. I., chairman; on American Medical Necrology, Dr. C. C. Cox, Md., chairman; on the Causes of Epidemics, Dr. Thomas Antisell, D. C., chairman; on Compulsory Vaccination, Dr. A. N. Bell, N.Y., chairman; on Leakage of Gas-Pipes, Dr. J. C. Draper, N.Y., chairman; on Alcohol and its Relations to Man, Dr. J. R. W. Dunbar, Md., chairman; on the Various Surgical Operations for the Relief of Defective Vision, Dr. M. A. Pallen, Mo., chairman; on Local Anæsthesia, Dr. E. Krackowitzer, N. Y., chairman; on the Influence upon Vision of the Abnormal Conditions of the Muscular Apparatus of the Eye, Dr. H. D. Noyes, N.Y., chairman; on the Comparative Merits of the Different Operations for the Extraction of Vesical Calculi, Dr. B. J. Raphael, N. Y.,

chairman; on the Therapeutics of Inhalation, Dr. J. Solis Cohen, Pa., chairman; on the Deleterious Articles used in Dentistry, Dr. Augustus Mason, Mass., chairman; on Medical Ethics, Dr. Worthington Hooker, Conn., chairman; on the Climatology and Epidemics of Maine, Dr. J. C. Weston—of New Hampshire, Dr. P. A. Stackpole—of Vermont, Dr. Hy. Janes—of Massachusetts, Dr. Alfred C. Garratt—of Rhode Island, Dr. C. W. Parsons—of Connecticut, Dr. B. H. Catlin—of New York, Dr. E. M. Chapman—of New Jersey, Dr. Ezra M. Hunt—of Pennsylvania, Dr. D. F. Condie—of Delaware, Dr. — Wood—of Maryland, Dr. O S. Mahon—of Georgia, Dr. Juriah Harris—of Missouri, Dr. Geo. Engleman—of Alabama, Dr. R. Miller—of Texas, Dr. Greensville Dowell—of Illinois, Dr. R. C. Hamil—of Indiana, Dr. J. F. Hibbard—of District of Columbia, Dr. T. Antisell—of Iowa, Dr. J. W. H. Baker—of Michigan, Dr. Abm. Sager—of Ohio, Dr. J. W. Russell.

"Secretaries of all medical organizations are requested to forward lists of their delegates, as soon as elected, to the Permanent Secretary.

W. B. Atkinson, M.D.,
215 Spruce Street,
Philadelphia."

THE NEW BRITISH PHARMACOPOEIA.

The Dublin *Medical Press* of the 6th of February state that the new edition of the "British Pharmacopoeia" will be issued sometime in March, and it believes that the alterations that have been made will be found satisfactory. It says: "The objectionable plan of indicating the presence of opium in the names of many of the compounds has been altered, and the Dover's powder, paragoric elixir, opium pill, and other preparations containing opium, are again called pulvis ipec. co., tr. camph. co., pil. saponis co., pulv. kino co., &c." The two compounds of mercury, lately called calomel and corrosive sublimate, are now called the subchloride and perchloride of mercury. Old friends, such as the acetum scillæ, acetate of morphia, and the iodide of lead, are again introduced; while new preparations, such as the Calabar bean and the oxalate of cerium, have found a place.

We have much pleasure in stating that Messrs. Fannin & Co., of Grafton street, Dublin, have kindly consented to act as our agents for Ireland. Books for Review, addressed to us in their care, will be safely forwarded to us.

CHEMICAL AND MEDICAL NEWS.

On a New Class of Compound Ammonias. By M. A. Wurty, Academy of Sciences. December 24, 1867.

The isomerism between pseudo-amylic alcohol and ordinary amylic alcohol, which Dr. Wurty has shown to extend to the ureas, is in this note proved to extend also to the ammonias. He has here described isoamylamine. To prepare it, pseudo-amylurea is heated for some days with very concentrated caustic potash, and then distilled from baryta. The new ammonia boils at 78-5°: its density at zero is 0.755. Like amylamine, isoamylamine possesses a strong ammoniacal odour, it mixes with water, precipitates metallic oxides, and dissolves oxide of copper. The hydrochlorate crystallises in brilliant octahedra, which are efflorescent in the air. The platinous salt is very soluble in alcohol; this distinguishes it from amylamine, the platinous salt of which is insoluble. The gold salt is also soluble.

Action of Chlorine on Amylene.—M. Bauer, in an article in Zeitschr. Chem., p. 380, stated that at 17° C. chlorine is absorbed by amylene without any sensible disengagement of hydrochloric acid; at the boiling point the disengagement takes place, and at the same time there are separated:—1. Chlor-amylene, C_{10} H_9 Cl., boiling from 90° to 95° C.; 2. Chloride of amylene C_{10} H_{10} Cl_2; 3. Clorinetted chloride of amylene, C_{10} H_9 Cl_3, crystallising in camphorated mases; 4. Bi-chlorinetted chloride of amylene, C_{10} H_8 Cl_4,—a heavy limpid liquid, boiling at 230° to 240° C.

Dr. Horace Green, LL.D., Member of the Medical Society of the County of New York, Fellow of the N. Y. Academy of Medicine, and up to the period of its discontinuance, President Professor Emeritus of Theory and Practice of Medicine in the N. Y. Medical College, died November 29th at Sing Sing, N. Y., aged 64 years. His name was prominently connected with the subject of the introduction of the probang into the trachea, and the injection of tubercular cavities, both of which matters gave rise to an animated discussion before the Academy.

What the late Professor Mutter did for Philadelphia, the, widow of the late Professor Valentine Mott has done for New York. At an expense of more than $30,000, she has purchased, enlarged and fitted up, at No. 58 Madison Avenue, between 27th and 28th streets, a building, in which are deposited the medical library, and the surgical instruments of her late husband, the distinguished American Surgeon, Valentine Mott.—*Medical and Surgical Reporter.*

CANADA

MEDICAL JOURNAL.

ORIGINAL COMMUNICATIONS.

Clinical Surgery. A Lecture on Fracture of the Lumbar Vertebræ, delivered at the Montreal General Hospital. By GEORGE E. FENWICK, M.D., Demonstrator of Anatomy, McGill University, &c. The patient stated to be shortened in stature one inch and one quarter. Recovery. Case reported by MR. WILLIAM GRANT.

GENTLEMEN,—The subject of our observations to-day will be fracture of the vertebræ, having special reference to the case in ward No. 16, still under observation. It is of deep interest in consequence of its unusually favourable termination. The man is at present able to walk about without fatigue, and although somewhat stiff in the back, we may regard him as convalescent.

He has been in Hospital for the past four months, and the bulging of the spinous processes and arching backwards of the vertebræ in the lumbar region are sufficiently obvious to attest the correctness of the diagnosis as regards the nature of the accident were the facts wanting of the early observation of the case. We are indebted to Mr. Grant, the clinical clerk, for the following notes of the case.

Gregory McIntosh, æt 26 years, employed as a teamster by the Grand Trunk Railway Company, a stout muscular well-built man, has always enjoyed good health, met with the following accident: On the 16th October last he was driving his waggon loaded with trusses of packed hops. He was seated on the top of the load, and while passing through an arched stone gateway, stooped forward, imagining that there was ample room without the necessity of his descending from the load.

When about the centre of the arch his shoulders came in contact with the masonry above, as the horses moved forward, the space became narrower, and he was forcibly bent forward with his head between his knees. In this position he became wedged in so tight that the horses could proceed no further, and in this state he remained until some men about the premises came to his relief, and extricated him. When taken down from

the load he became insensible, probably fainted, and was carried to his house. He was seen by two medical gentlemen, who declared that his back bone was broken and advised his removal to Hospital. He was admitted into Hospital that same afternoon, under the care of Dr. Fenwick, when the following condition was found to exist: there was considerable bulging of the spinous processes of the lumbar vertebræ, the soft parts were swollen red and puffy; there was great tenderness, the slightest attempt at examination produced agonizing pain, the spinous processes were separated from the bodies of the vertebræ, and they appeared to be separated from one another: the second, third and fourth lumbar vertebræ were engaged in the displacement, the first, third and fourth lumbar spines were considerably elevated, forming an arch backwards at this region of the spine. Attached to them and likewise displaced were the laminæ and transverse processes, so that the back at this point, instead of presenting the usual hollow, bulged outwards. There was no loss of sensation or motion in the lower extremities but the catheter had to be used for a few days after admission to relieve his bladder. On admission, the house surgeon, Dr. Drake, had him placed on a firm hair mattress with his face downwards, a pillow was placed beneath the abdomen and a bladder of ice put on the back over the seat of injury. This treatment was continued, and at the end of a few days his diet, which at first was withheld, was increased, and perfect rest enjoyed. The bowels were sluggish, and the rectum had to be washed out with injections. At the end of about ten days he was able without assistance to roll over on his side but would hastily return to the position on his belly, as this change increased his uneasiness. While lying on his face he was comparatively comfortable; suffered no pain or uneasiness. His appetite was remarkably good throughout, and he passed a large quantity of light coloured urine with a heavy sediment chiefly of earthy phosphates; a little later, a gutta-percha splint was moulded to his back, and retained in its place by a bandage; this gave great support. In the course of a month or six weeks he was able to change his position in bed and lie over on either side. The back felt very weak, and he was at this period still unable to support the weight of his body; but gradually though slowly, he improved, and about the middle of January, or three months after the receipt of injury, he was able to stand and walk with the aid of a stick. He states that his stature has been diminished by one and a quarter inches: this assertion is coroborated by some of his friends.

Fractures of the spinal column or injury to the osseous envelope, of the spinal cord possess more than usual interest to the surgeon. As

a rule it may be asserted that these injuries are followed by a fatal result. The delicate structure of the spinal cord and the great danger of injury to its integrity resulting in permanent destruction of its functions and ultimate disintegration of its substance, is the reason why these injuries become a source of constant anxiety to the surgeon, and of serious moment to the sufferer, as affecting in an eminent degree the chances of his ultimate recovery. These injuries are usually complicated in their nature, as in many instances there is found to exist a condition of both fracture and dislocation. But let me not be misunderstood, as it cannot be denied that either of these conditions may exist independently of the other. When we regard the irregular form of the vertebræ the overlapping of the various processes, bound together by strong ligamentous bands and cemented by powerful muscular attachment, it is difficult to conceive how an accident resulting in displacement can occur without a combination of these two forms of injury.

In the cervical region, where motion is free, and where the articular surfaces look upwards and downwards, being in a horizontal plane, dislocation may take place without fracture, or the fracture may be comparatively of little moment. The dorsal vertebræ, on the contrary, possess but slight motion; they are firmly locked together, having long processes, and in the case of the spinous process, overhanging, so that simple dislocation, unaccompanied by fracture more or less extensive, is a result hardly to be looked for.

The lumbar vertebræ again possess considerable mobility as a whole; but these, being at the base of the column, are large and strong, lacking that delicacy of formation observed in the other regions. This is obviously for the purpose of affording greater strength, to enable them to support weight, as they may be regarded as forming the foundation of the entire column. Here, again, it is difficult to conceive the possible event of dislocation occurring without fracture. These are mere points of interest to the observer, as they do not in any way modify the result, as the reduction of the dislocated bone, should such exist, or the placing a fractured vertebra in position, is hardly justifiable, as much mischief may result from excessive or violent manipulation. It does not at all follow that, because in fracture of the thigh or arm, or dislocation of the femur or humerus, it is necessary to recognise distinctly the nature of the accident, with a view to its after treatment, that the same holds with regard to the spine. Very little can be done in the majority of these injuries, although occasionally exceptional cases have been met with, where the surgeon has attempted to remedy the displacement, and some few have been attended with apparent success; but you must

bear in mind, gentlemen, that the serious nature of these accidents does not consist in the fracture or dislocation of the bones, but in the injury done to the spinal cord or its envelopes. If the displacement is apparent and extreme, so that it demands interference, the method of reduction will be the same, be it fracture or dislocation, or a combination of both; and our prognosis is not more or less grave in the one case than in the other. So that, in these accidents, interference, as a rule, is to be condemned, and the prospect of affording relief by severe manipulation *nil*. Indeed, we may do incalculable mischief by severe measures, as the position of the parts is such that no accurate diagnosis can be formed, Attempts at reduction of the displaced bones may, if much force be employed, increase the mischief, and the spinal canal be further altered in shape and space, so that the medulla, or its envelope, may be encroached upon by forcing a portion of the broken fragment into its substance, a result which would deprive our patient of any chance of recovery, which he may have had prior to the attempted reduction.

In regarding the mechanism of the spinal column, we will find it is destined to support weight; it acts as a medium of connection between the different extremities, affords attachment to the ribs, and, from possessing a nicely graduated flexibility, accommodates itself to the various motions of the body; at the same time it affords protection to that most vital organ, the medulla spinalis. From its construction, it is adapted to receive shock. Between each of the bodies of the vertebræ are interposed elastic cushions, which act much in the same way as do the buffers of a railway carriage, and thus the force of a blow is expended without injury. Furthermore, we must bear in mind that the entire column forms one flexible whole, as motion between any two vertebræ is limited; its motion, therefore, consists in a continuous movement between several vertebræ. To accommodate itself to the formation of the body, it consists of a series of arches; these, together, presenting somewhat the form of an italic *S*, so that the whole column possesses resiliency, acting like a curved spring, and which, in the act of falling on the feet in jumping or walking, breaks the concussion, which otherwise would occur.

There are other circumstances which have reference to the anatomical construction of the parts which deserve special attention. These are the provision made by nature for the safe protection of the medulla spinalis.

The medulla is smaller than its bony case. It extends in the adult from the foramen magnum to the centre of the body of the first lumbar vertebræ, where it terminates in a slender filament of grey substance,

the *filum terminale*, which is concealed by the nerves forming the cauda equina.

The medulla spinalis is surrounded by three membranes. The pia mater, which closely invests the cord, is a vascular layer, the vessels being smaller than the corresponding investment of the brain; it is composed of fibrous tissue, which is very intimately adherent to the cord, sending processes into its anterior and posterior fissures, and is prolonged around the nerves, as they pass out, forming their proper neurilemma. At the point of termination of the medulla, the pia mater is contracted, descending through the centre of the nerves, which constitute the cauda equina, and becomes lost in the sheath of the dura mater, at the superior part of the sacral canal.

The arachnoid is a thin, delicate, serous membrane, which surrounds the medulla loosely, so that there is a considerable space between it and the cord itself. This is called the sub-arachnoid space, and contains a quantity of serum, the cerebro-spinal fluid.

The dura mater of the cord or theca vertibralis is considerably larger than its contents, its size being greater in the cervical and lumbar regions than in the dorsal. It is firmly attached to the foramen magnum and to the posterior common ligament. It is non-adherent to the bones of the canal, which have a proper periosteum, and it sends funnel-shaped prolongations around the nerves as they pass out through the intervertebral foramina. This arrangement is beautifully adapted by nature to permit of free movement without injury to this vital organ.

The medulla spinalis hangs thus loosely, being suspended from either side by cords, and at the same time rests or floats in the fluid which exists in the sub-arachnoid space. In contemplating this admirable structure, exhibiting as it does, the most perfect design, we cannot but admit an element of weakness. A column intended to support weight, having free motion, is not in itself of sufficient stability to prevent injury when force is applied in a certain direction, or sufficient in amount to overcome its resistance. Hence we will find that the points most liable to injury, are those where a comparatively fixed position is attached to one having greater freedom of motion. This natural law is fully borne out by experience: and it is found that those portions most liable to injury are where the moveable cervical region is attached to the comparatively fixed dorsal, and also where the inflexible dorsal is attached to the more moveable lumbar vertebræ. In the case alluded to the force was applied to the shoulders of the individual at the upper part of the dorsal vertebræ; the shock was conducted through the bodies of the vertebræ, and became expended at the point of injury in the lumbar re-

gion, following the above rule. Now let us enquire into the condition of the parts as they probably existed at the time of the accident, and what we would most probably have found had opportunity served.

Blood would have been found extravasated into the surrounding tissues; the muscles lacerated and torn from their attachment, the supra and infra spinous ligaments torn, and the spinous processes fractured, accounting for the deficiency of the third lumbar spine which is still apparent, the body of the corresponding vertebræ comminuted, possibly displaced a wedge-shaped portion driven forcibly forward or possibly dislocation of the entire body of the vertebræ at this point, the ligaments torn and ragged, and the articulating processes wrenched asunder. In these injuries the intervertebral substance is seldom separated, the bone itself more commonly giving way; this is to be accounted for by the spongy texture of the bodies, and the great elasticity of the intervertebral substance. In some cases the injury to the bodies partakes of the character of an impacted fracture, or a wedge-shaped piece is driven backwards into the spinal canal, and may press upon, lacerate, or completely sever the cord, resulting in paralysis of all the parts below the seat of injury, and ultimate death.

In the particular case under consideration, there was no interruption of function of the nerves. No loss of sensation or motion, no continued paralysis of the bladder, no interruption of the function of the rectum; for although we had to resort to enemata to relieve the bowel, the constipation was not more than would be observed in a healthy robust man accustomed to much exertion, being suddenly deprived of locomotion and confined to the recumbent posture. Cases are mentioned by surgical writers of fracture occurring below the second lumbar vertebræ, in which there had been no paralysis; these are exceptional instances, and have been accounted for in the following manner:— If the seat of injury is below the terminal extremity of the medulla, the canal is occupied by the bundle of nerves constituting the cauda equina; these nerves possess considerable firmness, and are loosely held together; they are in consequence easily pushed aside in this capacious canal without danger of injury, and consequently their function is not impaired. In this case the posterior arch was forced backwards, and the anterior possibly in the opposite direction, so that the calibre of the spinal canal was enlarged, giving more room to the nerves, and precluding the possibility of injury to their substance. But this is mere conjecture, as we have no means of arriving at a positive knowledge of the state of the parts, and I trust it may be long for the man's sake, ere we can de-

cide the question. The case is one of those exceptional instances of a good recovery after most extensive injury, and the result is not to be ascribed to any extra skill in its management, but to the unusual nature of the accident.

Lecture on the Anatomical Character of Joint Diseases, delivered at the McGill University, Montreal. By Louis Bauer, M.D., M.R.C.S., Eng., &c.

Gentlemen,—All the anatomical components of a joint may separately and collectively become diseased. Their morbid susceptibility varies however in a material degree. The articular cartilage occupies obviously the lowest point in the scale. In conformity with its purely physical office, it is elastic, only indifferently organized, and devoid of nerves and vessels. Its nutrition is therefore of a low order, accomplished chiefly by transudation and imbibition. Reasoning from these premises it might *a priori* be assumed that this structure possesses but a trifling susceptibility to independent morbid action. This supposition receives additional strength from experiments upon animals by Redfern, O. Weber, and others who find that neither physical violence nor chemical irritants have much lasting effect upon articular cartilage. The intervertebral fibro-cartilages are of higher organization, and are therefore endowed with a more decided susceptibility to morbid changes than those of joints. I have made clinical observations to this effect, and I have recorded one case of inflammatory disintegration of so striking a character, that no reasonable doubt could be raised against it. In advanced diseases of joints and of the spine it is impossible to determine whether the cartilage or some other structure has been first affected. The destruction is commonly so general as to leave no room for speculation. I am inclined to believe that the cartilage suffers but rarely from primary lesion, but that it often participates in the affection of the subjacent bone, and is subject to disintegration from purulent maceration.

That the cartilage displays but a passive character in the so called *arthritis deformans progressiva* is now well understood.

The synovial lining is a sort of intermediate structure. It does not conform to serous membranes with which it has heretofore been classed. Its greater thickness, albuminous secretion and layered epithelium bring it nearer to the anatomical structures of mucous membranes from which it differs by the absence of mucous follicles. The Haversian glands are no glands at all, but synovial insaculations filled with fat. Gosselin's fimbriæ have thus far not met with general acceptance, nor have their functions been fully ascertained.

According to Richet the healthy synovial membrane is very vulnerable. Injections of irritating fluids into the joints of animals are promptly followed by great vascularity, hyperemia, pinkish and purple discloration, and opacity of the synovial lining with serous infiltration of the adjacent connective tissue. The vessels frequently cluster around the articular cartilage, and by anastomosis form as it were a continuous wreath from which returning twigs branch over the margin. Occasion ally the synovial membrane becomes so oedematous and pouched as to circumvallate the cartilage as chemosis does the cornea. By degrees the entire surface of the joint becomes roughened and granulated. The epithelium luxuriates and is converted into pus corpuscles which are successively thrown off and the articular cavity is filled with purulent fluid (pyoarthrosis); similar pathological changes may often be observed to follow penetrating wounds, with this difference however that in the beginning the synovial fluid forms a material constituent item of the discharge, and reappears occasionally when the process is subsiding. From these experiments it would seem that the synovial lining, notwithstanding its destitution of nerves and vessels, is highly susceptible to morbid action of the peracute type. But clinical experience has collected many facts to the contrary. Thus, for instance, some penetrating wounds close by first intention without inconvenience to the injured joint, although blood may have been left behind and air may have entered. Many a time have I performed articular puncture by trochar and knife without a single bad effect, having of course, as much as possible, prevented the entrance of air.

In hydrarthrosis, Nelaton has freely resorted to injection of iodine, and others have followed his example. According to their statements, only a moderate reaction usually ensues. Free incisions into affected joints have been made, checking the disease, and saving extremities. Amputations in contiguity leave always a portion of the joint, and some surgeons prefer these operations on account of better statistical returns. These facts constitute a formidable offset to the rule based upon Richet's investigations. It is not unlikely that chemical irritants, applied to a healthy articular surface, will readily lead to a rapidly advancing synovitis, and repeated applications of this sort will bring about those progressive changes, of which Richet gives so graphic an account. But it does not follow that atmospheric air would give rise to the same disturbances. According to my experience, the dangers of penetrating wounds have been altogether overrated. In the course of the last few years I have attended a considerable number of cases, many of them formidable, and have in every instance obtained satisfactory results. This may

have been due, in part, to the healthy condition and tolerably good surroundings of my patients, but not less to the more appropriate treatment that has found its way into surgery. From clinical observation, however, I have received the impression that the synovial membrane has a dangerous affinity for disturbing causes of a constitutional character. Rheumatism, syphilis, and pyemia, in particular, select this structure in preference to the other components of joints. Of late much has been said and written about tubercular synovitis; Foerster has never met it, and he is certainly no superficial observer. Nor have I had an opportunity of examining a single case of this description, although I may say, without boasting, that I examine as many cases of joint diseases as any well-employed surgeon. If, moreover, tubercular synovitis is of a nature similar to that of tubercular meningitis, it means little more than initiatory changes in the subsynovial tissue towards suppuration,—namely, hyperplasy of connective tissue. Still I do not pretend to express a conclusive opinion upon what has so sedulously evaded my most inquisitive pursuit.

Some authors believe that the synovial lining suffers most severely from incidental traumatic injuries. I beg to dissent from this opinion. If both constitutional and local causes expend their force upon the synovial membrane, all joint diseases would resolve themselves into synovitis, and the other components would pass clear of primary disease. Both clinical and anatomical observation refute views so untenable. Most injuries befall the prominent portions of joints—the bones and their periosteal coverings, because they are most exposed, and because they offer static resistance. And even if the synovial sac comes in for its lesser share, the consequences cannot be beyond speedy redress. Inflammation, excited by a transient cause, would soon terminate in copious secretion of synovial fluid; and this, in turn, would be absorbed. A moderate admixture of purulent elements would not materially affect final resolution. Permanent disintegration of the synovial lining, or of the other constituents of the joint, could not well be ascribed to a comparatively trifling and transient cause.

In the anatomical consideration of joint diseases, there has not yet been assigned to the periosteum that importance which it so fully deserves. In the first place, the periosteum continues as part of the joint from one bone to the other, constituting the so-called fibrous capsule. Next, it partly covers the epiphyses and condyles of the cylindrical bones, and constitutes the means of their maintenance, growth, and development. From the first anatomical relation results the direct transmission

of disease; and upon the other depends the structural condition of an essential articular component.

In the course of my surgical practice, I have observed cases of joint disease that could be traced to no other cause than traumatic periostitis. Some of them involved both limb and life. I will relate one in striking exemplification. A lad of thirteen years, in perfect health, and without any noticeable morbid diathesis, was struck with a medium-sized cobble-stone at the middle of the tibial crest. Judging from the lesser age of the boy who aimed the blow, from a distance of about twelve yards, the force could not have been very considerable. The impression upon the leg was apparently insignificant. The pain was trifling, and no bruise or indentation appearing, the patient paid no attention to the injury during the succeeding five or six days, and continued at his duty as an errand-boy. Subsequently he found locomotion impracticable, his leg having become painful and so swollen that he could not get his boot on. A physician was now sent by the father of the offender. The attendant failed to penetrate the nature of the lesion. Thus twelve days more were irretrievably lost in paltry applications. When better advice was finally obtained, the disease had made considerable advance, demanding more than anything else extensive and deep incisions. These were not resorted to to a sufficient extent. I was called in at about the sixth week after the accident, and found the patient in a most critical situation, and fearfully reduced. Then no alternative to amputation remained, for the limb and the corresponding knee-joint were so extensively and irrecoverably diseased that no attempt at saving the limb could be entertained. The specimen revealed the following state:—Almost entire destruction of periosteum of the tibia, exposure and discoloration of that bone; the remaining portion of the periosteum towards the knee-joint undermined allowing the passage of a stout probe into the articular cavity at the lower insertion of the fibrous capsule. The latter was itself perforated by ulceration at the external and posterior walls, and the joint exhibited the pathological changes of advanced pyarthrosis. The patient had a speedy recovery, and has for the last six years enjoyed the most unqualified health. Now, gentlemen, this case proves indeed more than I have claimed. Here a lad in perfect health receives an injury at a point remote from the knee-joint, which lights up an inflammation of the periosteum. Not being recognised and controlled, the inflammation proceeded to suppuration; the matter spread below the periosteum in every direction, until it reaches the capsular apparatus, and finds access to the joint. As soon as the diseased structures are removed, the patient regains his former health and strength, precluding every suspicion what-

ever of constitutional disease. This is certainly a clear case of traumatic periostitis, involving an articulation; and the chain of evidence is continuous from the very starting point to the finale. This case is by no means as isolated and exceptional as might be supposed, although in others the clinical history may not always be found so plain and transparent.

The foregoing belongs to a class of cases that are generally insidious and protracted. For a long time they cause but little inconvenience to the patient, and therefore they are slighted at the time when appropriate treatment could scarcely fail to arrest their progress. Thus with very little change they pass on for many months, until an acute period is reached and the joint is found to be extensively diseased. The original traumatic cause is forgotten; it appeared at most to be insignificant, and in the estimation of all parties concerned, could not have given occasion to consequences so severe. Meanwhile the constitution of the patient has materially suffered, the vital forces are depressed, the appetite has become indifferent, weight has decreased, in fact nutrition has gradually and proportionally declined, as the local disease has extended its sway. This is the history of most cases occurring during childhood, and it is this class that has been set down as the result of strumous causation, in default of any other known case.

Now, gentlemen, *must* there not be a *general predisposition* attached to *the physical condition of infantile development*, that favors diseases of joints, and disappears at puberty? No one seems to have paid much attention to this query, and hence the preponderance of joint affections in childhood has remained unaccounted for, up to this very day. It is still an enigma unsolved.

Laying aside all the fetters of established doctrines, let us try to find out some of the anatomical differences existing between the joints of children, and those of adults. Perhaps they may furnish us the key to a correct understanding of the matter. All we meet is the epiphysal contrivance which serves wise purposes in the growth and development of the osseous architecture, but allows the epiphyses themselves to be liable to mechanical derangement. We need but to look at a vertebra composed as it is of seven different pieces held together by cartilaginous discs and periosteum. By this arrangement it is rendered a very elastic body capable of accommodating itself to many exigencies. But its resistance is limited to its elasticity, and the single pieces may under certain circumstances become disjointed or somewhat altered in mutual relation. Diastasis is a solution of continuity solely appertaining to the period of childhood.

At an early stage of infantile life the different epiphyses of the skeleton present a marked peculiarity in the mode of their maintenance, and there is reason to believe that this mode partially continues to within a short time before puberty. Careful injection of the nutrient vessels of the bones of infants and children, demonstrate pretty clearly that the epiphysis receives no vascular complement from that source. In fact the vessels pass only to, and not through the epiphysal cartilage. On the other hand the vessels that enter the epiphysis have no communication with the nutrient artery of the shaft. They are, as it seems, completely isolated from each other by the cartilaginous disc. Most epiphyses are supplied with blood from the periosteum, with which they are in part covered. Those epiphyses to which the periosteum can not approximate closely enough, have a special source of nutrition. Thus for instance the head of the femur receives its supply from a branch of the obturator artery which enters the notch of the acetabulum and accompanies the so called ligamentum teres, to its destination. The nerve takes the same course. A rather complex mode exists at the knee joint through both periosteum and the ligamenta cruciata. After the skeleton has attained its full development, and the epiphyses have become continuous with their respective bones, nutrition is perfected by anastomosis of the several vessels. But the intermediate parts of some bones seem never to achieve a full share in nutrition, thus we know that fracture of the femoral neck but rarely heals by bony union. It is very necessary that we become fully acquainted with all these physiological facts as they serve to throw light upon a field hitherto obscure.

The epiphyses constitute the most prominent part of the joints, and receive most of the violence of traumatic injuries, the soft parts being thus in a measure protected. At the limited space of contact with the offending force, the integuments and the periosteum are contused and ecchymosed, and the nerves of the joint less or more injured. The integuments may soon recover; at any rate their structural derangement would be of but little consequence. Not so with the periosteum. If the extravasation of blood takes place in the usual way, that is to say beneath the latter, it constitutes in my estimation a serious trouble. Irrespective of ecchymosis, the eventual cause of subperiosteal suppuration, the very presence of blood denotes disruption of the vessels intended to supply the nutritive demand of the epiphysis. The extent of the part borne by injuries of articular nerves (sensitive and trophic) in exciting articular diseases has as yet not been clearly ascertained. A case previously detailed gives strong evidence to this effect. The same injury to any other part of the bone might be comparatively harmless, and would generally

eventuate in exfoliation, because the nutrition of the bone depends only in part on the periosteum. It would seem therefore that even apparently trifling contusions at the epiphysis should be viewed with deference and treated with becoming care. But if they give rise to subperiosteal suppuration, there is in two ways imminent danger for the joint:—first, by the matter spreading below the periosteum and forcing its way into the articular cavity; and secondly, by instituting necrobiosis of the epiphysis in part or *in toto*. The latter mode is obviously the more frequent. The destruction or detachment of the entire epiphysis by this process is very rare,—more frequently, one of the condyles is implicated, enlarged, osteoporotic, and very tender. From thence the disease radiates to the remaining structures, and thus the joint becomes compromised. I have but lately exhibited to the New York Pathological Society, a specimen illustrating this process. A small sequestrum in the internal condyle of the femur was evidently the proximate cause of the extensive trouble to the joint, amounting to an almost complete obliteration of its cavity by adhesive synovitis.

Primary diseases of the epiphysis are not of frequent occurrence, and least of all osteomyelitis.

The process of gradual destruction is most simplified at the hip-joint, and its varied phases may best be studied there. A few anatomical remarks will be necessary. The ligamentum teres must be accepted as a ligament in an anatomical point of view, on account of its being endowed with a considerable complement of fibrous structure. Besides this, however, areolar tissue, and fat enter largely into its composition, encompassing the nerves and vessels passing to, and from the head of the femur. No anatomist has as yet been able to demonstrate the office of the round ligament. The head of the femur fits so accurately in the acetabulum that it is held there by atmospheric pressure, or, as others think, by cohesion. This bone may dislocate in any direction without the ligamentum teres being ruptured; it consequently places no restraint upon the movements of the thigh bone. Some instances are known where the joints lacked it altogether, without marked impediments resulting. Again it has been ruptured in the act of violent dislocation and the returned head of the thigh bone moved almost to the same perfection as before. Thus it would appear that this ligament bears no part in the action of the hip point. Another office must have been assigned to it. To all appearance it acts as the protector of those nerves and vessels which form the nutritive apparatus of the head of the femur. Without this protection the nutrition of the femoral epiphysis could not be effected. Collectively I look upon the ligamentum teres therefore as the essential nutritive appendix of the

head, and its destruction during the epiphysal period as tantamount to the destruction of the head itself. From the composition of the round ligament a high degree of susceptibility must be inferred. In fact, none of the articular components can bear any comparison to it in this respect. Besides the ligamentum teres is subject to contusion from violence to the great trochanter, whilst the thigh is in the position of adduction and eversion. And upon the trochanter falls are generally received. Boyer has already expressed the belief that morbus coxarius emanates from the round ligament; but for want of pathological facts, he did not succeed in convincing his contemporaries. The scrofulous theory very soon preponderating overawed his views, which well deserved consideration. Perhaps no articulation has suffered more from the dogmatism of the humoralist school than the hip joint; and the fiction culminated into a system in morbus coxarius. There were explanations in it for every single symptom. Very few of these are destined to survive the present century.

It cannot be denied that morbus coxarius may possibly be caused by primary synovitis or periostitis with subsequent centripetal perforations. But the majority of cases must necessarily result from primary disintegration of the round ligament. Among the reasons for this opinion, of which I have already enumerated a few, stands in the boldest relief the pathological fact that the round ligament is invariably destroyed at a time when the remaining components of the joint have suffered but moderate disintegration. Next comes the striking fact that the head of the femur is invariably reduced excentrically in size, and in a few exceptional instances thrown off in toto. That the origination and frequency of morbus coxarius in childhood has the closest connection with the epiphysal construction admits of no doubt in my mind; and it explains satisfactorily the comparative rarity of this affection during adult life, when the epiphysis is completely united with the shaft, its nutrition thereby perfected, and the liability to accident lessened.

Gentlemen, I shall here close my discourse on the pathology of joint diseases, and not inflict upon you a reiteration of all that is said better in the works of Sir Benjamin Brodie, Robitansky, Paget, Gurlt, and other distinguished pathologists. Moreover, the practical benefit of being thoroughly versed in the ulterior structural changes attending joint diseases, is indeed of questionable value. If you see one joint in the last stage of its malady, you have seen them all, so little difference between them is presented. My chief object has been to acquaint you with the initiatory changes of joint diseases, and thus lead you in a practical direction for the prevention of their destructive advancement.

But even in this, I have had to consult brevity and terseness in order best to utilize the limited time at my disposal.

REVIEWS.

Notes on Epidemics: for the Use of the Public. By FRANCIS EDMUND ANSTIE, M.D., L.R.C.P., Senior Assistant Physician to Westminster Hospital. First American Edition. Philadelphia: J. B. Lippincott & Co. 1866. Montreal: Dawson Bros.

This is a valuable little work, from the pen of a very distinguished author, upon a subject of the most vital importance. The groundwork of it appeared lately in the "British Quarterly Review"; but by many it was deemed of such value to the public, that they induced the author to enlarge it for general circulation. The largest portion of the book is occupied in the consideration of typhus and typhoid fever, and cholera—all of which are handled as a rule in a way that imparts a good deal of information. In the general introduction to the work, Dr. Anstie mentions some circumstances, which, as a rule, indicate the approach of an epidemic disease—among them the increased temperature of the skin, as indicated by a thermometer—and in the following words counsels the mothers of families to learn its application: "The mother of a family should always be skilled in the application of the instrument, since nothing is more delusive and uncertain than the sensations of young children." Now, with all due respect to Dr. Anstie, we object. We heartily coincide with him in instructing the public in all that appertains to sanitary reform; but when it comes to initiating them in the application of the thermometer, an instrument so delicate as often to bother an experienced physician in its application, we decline. Further on he details the symptoms of the exanthemata; and says, when such and such a thing occurs, send for the physician. Now, our advice would be more general. We would say, when your child seems ill, summon your medical attendant. Our experience leads us, as a rule, to condemn the introduction into families of medical books, whether styled domestic or not. It is often difficult to distinguish diseases by their earlier symptoms—sometimes impossible. This being the case, then, how can mothers be supposed to do so? We will mention a fact in illustration: Not long since we were called to visit a young lady. On entering the parlour, and while waiting, we discovered a volume of Wood's Practice of Medicine lying open. Evidently the lady had been reading the symptoms of the exanthemata. When she appeared she was nervous, and much excited,

and assured me that her daughter was going to have small-pox, "for she had just the symptoms Wood gives in his medical book." On examination, we found the symptoms were general—fever, with a slight sore throat—and said that, in all probability, it was going to be an attack of rubeola notha, which was then epidemic. On visiting the patient next day, our diagnosis was confirmed; but we found the lady of the house ill—she had been again perusing Wood, and could hardly then be persuaded it was not variola. We have had several such instances, and do not therefore believe in instructing mothers in symptoms. Good seldom comes from it—often much harm.

At page 33 we find the following, which we most heartily endorse. More than once in our own city we have known patients entering the hospital to be treated for a surgical disease, contract small-pox, and narrowly escape with their lives:

"The attention of hospital committees ought to be directed to the crying necessity which exists for the establishment, at every general hospital, of separate wards devoted to the insolation of cases of the more contagious fevers, and especially of typhus. In our view of the case it is difficult to apply terms of reproach sufficiently strong to the practice of mixing cases of a powerfully contagious fever with patients who are suffering from miscellaneous diseases. One has only to state the case to show the impropriety of the proceeding. A poor person, suffering perhaps from a quinsy, or some other disorder in which there is no likelihood of any other result than a speedy recovery, is admitted to a hospital, and, while he is lying defenceless on his back, the authorities place in the next bed to him a typhus patient, who communicates to him a fatal disease, of which he dies. This is no fancy statement of the case; it is what has happened over and over again during the progress of the typhus epidemics, and especially during the great epidemic which has now for so long a time raged continuously in London. It may be said that a simple remedy for this kind of mischance would be the exclusion of all cases of the more contagious fevers from general hospitals, and, in fact, some hospital physicians have proposed to adopt this course rather than expose their other patients to the unjustifiable risk of contracting a highly mortal disease. But, in the first place, until the parishes do their duty in the manner which we shall presently point out, it is vain to suppose that the single fever-hospital can possibly accommodate all the cases of highly contagious fevers which are, or ought to be, treated in hospitals. And secondly, it must every now and then happen, even where the greatest care is exercised, that a person will be admitted who is supposed to be labouring under some ordinary complaint, but who is, in truth, infected with

typhus, or some other highly contagious disease which is in a *latent* condition. Under these circumstances it is a matter of the highest importance that there should be the means of immediately separating him from the non-febrile patients when the real character of his complaint declares itself. Formerly a notion prevailed that the aggregation of several cases of infectious disease within the same ward, was in itself an extremely mischievous thing, as tending to concentrate the poison and intensify its malignity. This is now known to be a fallacy, when taken as a general proposition. It is quite true that the poison of contagious fevers becomes highly dangerous when it is diluted with less than a certain quantity of atmospheric air. But by allowing a large amount of cubic space (1500 to 2000 feet) to each patient, and providing for the free circulation of currents of air, the concentration of the poison may be entirely avoided even in a ward which contains thirty or forty typhus patients. More than this; it may be broadly stated that it is impossible, in a ward which contains miscellaneous patients, some of them suffering from inflammatory diseases to which anything like draughts of cold air would be highly prejudicial, to keep up a system of ventilation free enough to effectually dilute the poisonous emanations of even a single typhus patient; and, as a matter of fact, the introduction of a single typhus patient into a ward which was quite sufficiently ventilated for general purposes has frequently caused the disease to spread from bed to bed with most lamentable results. A fever ward should, therefore, be a special affair, with an extra amount of ventilation. Where it is possible, the fever wards should be placed in a separate block of buildings, and, where this is not the case, at least the most jealous care should be exercised to prevent communication between the attendants of these wards and those of the wards which contain miscellaneous patients. With these precautions we believe that typhus may be absolutely shut within the walls of the apartments devoted to its treatment"

We would go further, and insist upon separate buildings being devoted to all contagious diseases. It is so at the Glasgow Royal Infirmary.

With regard to the means for disinfection, Dr. Anstie mentions the following:

"Drinking-water is to be disinfected by the processes of boiling and filteration. The water being first boiled, is afterwards to be filtered through charcoal; filters of this kind are easily obtainable, and the neglect of their use is unpardonable when there is the slightest reason to believe that there is a possibility of the water being contaminated by decaying organic matter. The air of rooms cannot be purified without, in the first place, establishing the freest ventilation. But, in addition

to this, it is desirable to provide a highly volatile disinfectant, which shall penetrate to every nook and corner of the apartment; and for this purpose there is nothing better than *carbolic acid.* Little wooden boxes should be placed in different parts of the room, containing the carbolic acid, their lids being fitted with a perforated zinc plate, through which the vapors may escape. Clothes, bedding, etc., which have been soiled with infecting discharges, if incapable of being washed, may be exposed in an oven, for two or three hours, to a heat of 212° Fahrenheit. Linen and other things which can be washed should be first *boiled* in water for two or three hours, and then soaked for some time in water containing one-fiftieth part of Condy's *red* disinfecting solution.* The discharges of patients should always, when this is practicable, be received in a vessel containing water strongly impregnated with Condy's red fluid. Drains and closets which smell badly should be purified by frequently throwing down them Condy's fluid, diluted with twenty or thirty parts of water. And where it becomes necessary, as a precautionary measure, to empty cesspools or privies, it is important to disinfect the sewage matters by the free use of Condy's solution, and the air by means of carbolic acid, or by burning sulphur; the disinfectant process being kept up as long as the slightest sewage smell is perceptible"

With the exceptions we have mentioned, we heartily endorse the work, and have no doubt but that a careful perusal by the public would stir them to become active workers for sanitary reform.

The Common Nature of Epidemics, and their Relation to Climate and Civilization; also, Remarks on Contagion and Quarantine, from writings and official reports. By SOUTHWOOD SMITH, M.D.; edited by T. BAKER, Esq. Philadelphia: J. B. Lippincott & Co. Montreal: Dawson Bros.

Dr. Southwood Smith was evidently an enthusiast in the matter of sanitary reform, and left behind him the material from which this very readable book is compiled. Its only fault is that it lacks that conciseness and connectiveness which it doubtless would have had, if it had been prepared for publication by the author's own hands. The editor has, however, done his task well. As will be observed from the extract we give below, cleanliness, above all things, is enjoined to prevent the

* Condy's fluid is solution of permanganate of potash in water. A good disinfecting liquid can be made by dissolving one drachm of the permanganate of potash in a quart of water. The salt in question is undoubtedly the best known disinfectant for nearly all purposes.—AM. ED.

approach of epidemics, and we are certain medical men cannot impress its absolute necessity too strongly upon the attention of their patients. At page 3 we find: "The character of pestilence which gave it its great power and terror—that it walketh in darkness—is its character no longer. Its veil has fallen, and with it its strength. A clear and steady light now marks its course from its commencement to its end, and that light places in equally broad and strong relief its antagonist and conqueror—CLEANLINESS." He then starts out upon the broad assertion, "that epidemics resemble each other in being all fevers," and proceeds to prove it by reference not only to epidemics of recent date, but refers to those which have appeared as far back as the fourteenth century. The usual cause of epidemics is traced, especially that of cholera, and the assertion made that "invariably previous to the approach of any epidemic disease, a general tranformation of ordinary diseases into the characteristic type of the approaching pestilence" is noticed. This is an assertion we do not remember to have noticed before, and we strongly doubt its correctness. The predisposing causes are entered upon, and the conditions of the atmosphere during the prevalence of epidemics noticed. The first portion closes with a very critical review of the beneficial effects of civilization upon epidemics. The latter portion of the work embraces a very able report upon quarantine, written some years ago by Dr. Smith, who claims that it is unnecessary, seeing that it only hinders commercial traffic, without any good result. He argues strongly for the epidemic condition of the atmosphere, which, he says, may exist over thousands of square miles, and yet only affect particular localities. This is a question still undecided, still open to discussion, and a good deal of information concerning it may be derived from this work, which we can commend to our readers.

Infantile Paralysis and its attendant deformities. By CHARLES LAFAYETTE TAYLOR, M.D. Resident Surgeon, New York Orthopædic Dispensary. Philadelphia: J. B. Lippincott & Co., 1867. Montreal: Dawson Bros.

This is a small volume of about one hundred and twenty pages, describing a form of infantile paralysis which the author asserts is met with about the time the first molar teeth make their appearance. It nearly always comes on suddenly; seldom being any premonitory symptoms—but what these premonitory symptoms are when they do occur, we are not told. In fact the entire symptoms of the disease as given are simply: the baby goes asleep well and wakens up paralysed, the peculiarity of it being an unvarying want of irritability. Fortunately, we are told, there is an un-

usual tendency for this disease to recover. More space is taken up in describing the deformities which result from the disease, than in describing the disease itself, and in doing so we think Dr. Taylor has shown wisdom. This portion is practical and tangible, and some very good hints as to mechanical appliances are thrown out; but of the first portion we cannot say much in praise. Dr. Taylor, in giving the probable cause of this infantile paralysis being so frequent in the United States, says:

"Modern, and especially American, civilization is characterized by peculiar activity of the brain, and this is often carried to great excess.

"The motive-force of American progress is brain-power. It is the ceaseless activity of directing mind that, in two centuries, has subdued the wilderness and peopled the continent; that has built vast cities whose commerce reaches the remotest regions of the globe; and that has proved itself capable of solving the most difficult political problems. The creative energy of the distinctively American intellect is recognized everywhere. But such vast results of this creative intelligence have not been accomplished without some sacrifices. It has diminished our physical endurance. As a people, we are dyspeptic, and weak in bodily vigour in the inverse ratio of over-activity of brain. Our labourers have to be imported. We are predisposed to nervous derangements. As a people we are over-worked. The nervous system becomes exhausted, and a constitution less strong than our own, but more excitable and impressible, is transmitted to our children."

There is some truth in the above, yet it is not all truth. We grant the activity of Americans, and their energy, but we assert if the diet of the American people was plain and wholesome, instead of the gimcracks which they are eternally swallowing, their nervous system would be recuperated, and their offspring would be strong and healthy. In this matter we do not speak from hearsay, but from actual observation. Even in Canada, where we presume the active mind of the American race would be somewhat subdued, owing to the dulness of the Canadian and English intellect which surrounds them; we find not only the genuine American answers the description given by Dr. Taylor, but also his children. They are thin, puny and delicate, and why? Simply because, while the child of English or Canadian parents eats his porridge and milk, bread, butter, meat and potatoes, the child of the American eats tarts, cakes, candies, &c. We assert this is a fact; one which we deeply regret, for, while we can and do rejoice at the progress our neighbours are making as a nation, we can but deplore that they are so rapidly degenerating physically, as to give rise to the most serious thoughts concerning the future of the American race. The book can be had from Dawson Bros.

A Manual of Auscultation and Percussion. By M. BARTH and M. HENRI RODGER. Translated from the Sixth French Edition. Philadelphia: Lindsay & Blakiston. Montreal: Dawson Brothers.

Auscultation and percussion have done wonders in diagnosis, and of late years they have both attained a remarkable amount of precision. To become thorough masters of them both, is, however, a somewhat difficult task—requiring not only a vast amount of perseverance in learning at the bedside not only the abnormal, but the normal sounds. A good book as an aid is of very great value; and after a perusal of the work before us, we can most confidently recommend it to students. It is written plainly and concisely, and, from its style, we are sure the translator has done the original no injustice. The production of the volume from its neatness, does the publishing house of Lindsay & Blakiston, of Philadelphia, great praise.

PERISCOPIC DEPARTMENT.

Midwifery and Diseases of Women and Children.

REPORT OF A CASE OF JAUNDICE; CO-EXISTENCE OF THE HÆMORRHAGE DIATHESIS; UMBILICAL HÆMORRHAGE; FATAL RESULT.

By G. DE CORREQUER GRIFFITH.

As the following is a rare case, and replete with very much interest, and, moreover, as many such have not been put on record, I take the opportunity of publishing it:

Mrs. G. S. came to me some time since when she was suffering from the symptoms of extreme anæmia. She was then a few months advanced in pregnancy, and applied to me because she feared for herself her approaching confinement, having suffered very greatly on the occasion of her last, when she gave birth to her first child.

She remained under treatment till the symptoms of anæmia had wholly disappeared. There was, however, but little improvement in her condition as regarded the development of either muscular or fatty structures, although she felt considerably stronger physically, very much more cheerful in spirits, and more hopeful in mind.

One day I was suddenly called to attend her, and was informed by the messenger that the child had been born almost without any warning of its birth, and before he had had time to leave the house.

On arriving I found the patient lying on her right side, just as she

had thrown herself upon the bed, the baby not separated from her, but lying between the legs, and having the cord entangled about its neck and limbs. The nurse mentioned that the child had not cried since its birth.

On examination I found the cord tightly encircling the neck, the upper extremities also being implicated in its coils, so that respiration was performed with difficulty. The child's face was of a livid hue, showing that a very little longer time would have sufficed to occasion a condition of asphyxia. The entire of the body was jaundiced.

When the infant was separated I made the mother turn on her back in order to enable me to grasp the womb, which having accomplished, I desired her to turn over on her left side that I might have the organ more completely under control, and by gentle but telling compressive force expel its contents. The compression was exercised in the usual backward and downward direction, and the afterbirth with all its appendages came away immediately.

When the mother was made comfortable, attention was directed to the child. The funis seemed to be quite right. The child was jaundiced all over from the crown of its head to the soles of its feet; and in various parts of the neck, trunk, and limbs were there spots of a bluish-black hue, as if the child had been pinched and bruised. Some of these spots were as large as a penny piece.

Moreover, the child was wretchedly puny, and though perfect as regarded its development, was of a very small size; was thin and ill-nourished; the skin was corrugated and pinched, as if the child had so rapidly lost flesh that the integument was unable to contract proportionately.

For the removal of the jaundice I ordered the child to be put to the breasts as soon as possible, that it might drink the first milk and have a free action of the bowels. In addition, I ordered a little castor oil and minute doses of grey powder.

The infant seemed to be doing as well as could be expected, considering all the ills against which it had to contend. But on the eighth day after birth some oozing of blood took place at that part of the cord where it passes into the abdomen. The funis had not yet come away. To this bleeding the attendant neglected to direct my attention, and it was not till the twelfth day—the day on which the decayed cord fell off—that it was mentioned to me.

Of course the occurrence of such a circumstance never entered into my mind, and I had rested satisfied with Mrs. G. S.'s mother's assurance that "baby was doing all right, except for the jaundice and the bruises."

I should have mentioned that delivery had occurred when the patient had accomplished only her seventh month.

The urine of the child was loaded with bile, and dyed everything with which it came into contact. The fæces also were surcharged with bile.

On the twelfth day the hæmorrhage had set in. In the afternoon of the same day I saw the child, and found that not a little bleeding had already taken place, and that the flow was considerably greater than the weakly state of the infant was likely to withstand. I feared, moreover, that efforts to control the loss of blood would be unavailing, owing to the existence of the peculiar diathesis. The following efforts were however, made:—Cotton wool was laid upon the bleeding surface, at first in a dry state, and afterwards soaked in the muriate tincture of iron. This not succeeding—the several layers having become saturated—the superimposed mass was removed, the blood-covered surface dried, and search made for the bleeding point. There seemed to be not any one particular place, but several spots, whence the blood flowed in such a manner that there was an oozing from the entire surface of the umbilicus, rather than a weeping from one spot.

As the umbilicus was apparently sufficiently prominent to admit a ligature around it, I essayed to deligate it, but failed. First, because that part of the cord, which yet remained attached to the abdomen, was quite decayed, and unable to hold anything upon it; and, secondly because the umbilicus receded as I endeavoured to tie it. There was now noticeable one point in the lower segment of the umbilicus from which the blood trickled faster than from any other; this I sought to include in the knot of a ligature, but the tissues gave way as I tried to lift them by means of the point of the tenaculum, and I was forced to abandon the procedure.

A dossil of cotton wool was placed over the umbilicus, and upon it was laid a shilling, the finger of an attendant was then made to exercise upon it gentle compression, and the mother of my lying-in patient was set to watch that the compression was properly maintained. I called again in the evening, and had the mortification to find that the cotton wool and shilling had been shifted from their position, that the bleeding had been allowed to proceed without any check, and had, indeed, been rendered more profuse by the pressure having been made about two inches above the umbilicus, which was consequently made more prominent and bulged in such a way that the bleeding was encouraged.

As the child was decidedly weakened by this loss of blood, I resolved to tie either the umbilicus and integument in a mass, or else the integument over the umbilicus, with the hope that the bleeding might be arrested;

but before undertaking so painful and severe an operation I had a consultation with Inspector-General Dolmage, who approved of the measure, and kindly lent his assistance.

We found it impossible to lift the umbilicus forward, and it was with no little difficulty that we pinched up even the integument immediately surrounding it. We therefore hooked forward on the point of the tenaculum that portion of the skin of the abdomen which lay directly below the navel, and having dipped the point we managed to seize the navel itself along with the integument above it, and to include all in the knot of the ligature, which was drawn as tightly as possible. Immediately that this was done the child screamed loudly, and very soon showed symptoms of collapse, probably from the shock sustained by the system when the ligature was tightened. This untoward, but foreseen event had in some measure been guarded against by the administration, previously, of a little brandy and warm milk; the same restoratives were given now, but failing to rouse the child, which seemed so depressed as to be unable to take the breast, a mustard poultice was applied to the spine, and the body swathed in a hot flannel which was well wetted with brandy.

These remedies had the effect of rousing the infant; and the pain occasioned by the mustard made it take the breast most eagerly. It continued to cry for some time; at length it again became exhausted. In the course of the night it died.

At the post-mortem examination I found the skin very deeply jaundiced, and abundantly covered with the hæmorrhagic spots; the process of ulceration or of sloughing, by which the funis had become detached, had extended underneath the skin of the abdomen, so that when the ligature was removed the umbilical vessels were quite open, and were now —in the dead state—completely patulous; there was acute peritoneal inflammation immediately surrounding the umbilicus; the intestines had not been wounded in the dipping of the needle.

Should a similar case again occur I should feel disposed to pass two needles through the skin of the abdomen, one above and the other below the umbilicus, and from the left to the right side, so that they should run parallel with each other and transversely as regards the umbilical vessels. I should next, having penetrated the skin on the left of and above the navel, dip the point of the needle so as to get it underneath the umbilical vessels, and having done so, I should then from within pierce the skin on the right of the navel, and bringing out the point compress the vessels between the needle and the integument. Should this method of compression not answer, I should pass the ligature around the needle in the same way as for hare lip, and thus more effectually exercise compres-

sion. The same should be done below the navel, so as to obtain occlusion of any bleeding vessels that run below it. Or, if this procedure would not act efficaciously, I should pass two or more needles into the integuments and umbilicus from side to side, and from below upwards, and then employ the ligature in the same manner as I have just described. Of course extreme caution should be observed, lest the bowels should be wounded, or taken up by the needle, and tied in the knot of the ligature.

6, Lupus-street. St. George's-square, Pimlico.

Medicine.

CLINICAL LECTURES DELIVERED AT CHARING CROSS HOSPITAL.

By Hyde Salter, M.D., F.R.S., &c., &c.

On the Diagnosis of Dropsies, Diagnosis of External from Internal Abdominal Dropsy. Diagnosis between Primary and Secondary or Indirect Dropsies.

Gentlemen,—I wish to call your attention to-day to some cases illustrating the Diagnosis of Dropsies.

The seat of certain dropsies is often diagnostic of their cause. Dropsies as a general symptom, taken in the broad, may result from an almost endless variety of diseased conditions; and it is only by determining the characters and particular features of the dropsy in each case, that it becomes diagnostic of the disease that generates it. Of all the circumstances of dropsy that impart to it a diagnostic character, its localisation is, perhaps, the most important and indicative. This circumstance, taken alone, is almost sufficient, in a great number of cases, to determine the diagnosis. Thus, if I were asked what dropsy in the face pointed to, I should say disease of the kidneys; if I were asked what dropsy of the abdominal cavity pointed to, I should say disease of the liver; and if I were asked what dropsy of the legs pointed to, I should say disease of the heart or lungs. And, in the majority of instances, I should be right, especially if these dropsies occurred without any other distribution.

The particular point for to-day—that to which I would especially direct your attention—is the diagnosis between external and internal abdominal dropsy; between the accumulation of fluid in the peritoneal cavity, and the accumulation of fluid in the subcutaneous areolar tissue of the abdomen: in other words, between ascites and œdema of the abdominal wall.

From what I have said just now, you will see the importance of this:—Ascites points to the liver; subcutaneous dropsy does not. The determination of this question, therefore, determines approximately whether

we are to regard the liver as concerned in the diseased process, or not. But, though you may admit the importance of the distinction, you may be disposed to regard the discussion of the method of making it as a superfluous inquiry. This, however, is not the case. Many a time I have had patients sent to me as labouring under ascites who have not had a drop of fluid in the peritoneal cavity, but the increased girth of whose abdomens has been entirely due to œdema of the abdominal wall.

On what rules, then, may we fall back for the resolution of a case in which there is undoubtedly an increase of the girth of the abdomen? How shall we determine, in such a case, whether the effusion is external or internal to the abdominal cavity?

1. If the effusion is external—if the abdominal enlargement is due to œdema of the parietes—the following conditions will be found to be present.

a. On attempting to pinch up the skin of the abdomen, we shall find that we pinch up a thick firm "rool" of integument, firm and doughy, an inch or more in thickness; and we generally find that the lower down on the abdominal surface that we attempt thus to pinch up the skin the thicker is the rool of integument which we raise; because the lower is the abdominal surface the more developed is the œdema.

b. We find the umbilicus deep-set, and deep-set in proportion to the œdema. This is always the case; and the reason of it is this :—At the umbilicus the skin and the deep fascia are fastened to one another, and annot be separated; elswhere, from the intervention of a loose and extensible areolar tissue, the one can be freely raised from the other. Now, it is into this areolar tissue that the dropsical effusion takes place; and by this effusion, and in proportion to it, the deep and superficial fasciæ are separated from one another, and the skin raised. In proportion, therefore, to the effusion which raises the skin from the deeep fascia will be the depth of the pit at the point where it *cannot* be raised. This deep-set umbilicus is very characteristic, and I would especially recommend your attention to it.

c. Again, the parietes have a particular white opacity about them—an unnatural and uniform whiteness; and this, I think, is in part due to another appearance—an absence of any visible veins. The superficial veins lie in the subcutaneous areolar tissue; and this is so thickened and distended by the œdema, and the skin thereby so much raised, that the veins are no longer immediately beneath the surface.

d. Another characteristic of œdematous abdominal parietes is a peculiar quaggy vibration in them when they are tapped—a sort of jelly-like

tremor. This may even be seen, but it is better felt by the hand. It is very important to recognise it, because it may be confounded, and often *is* confounded, with the true "fluctuation" of ascites. It is best felt in this way:—Place your hand lightly on the surface, and with the fingers of the other hand "flick" the skin close by: the peculiar thrill or tremor will be at once felt. And it will be found that the further the hand is removed from the point "flicked" the fainter are the vibrations, until, at at some little distance, they are quite lost. I do not think they can ever be felt quite across the abdomen, from one side to the other. As far as they *can* be felt, the sensation is as if they were conducted along the surface, and never as if they were conducted through the abdominal cavity. I shall recur to these points presently, in contrasting this spurious fluctuation of œdema with the true fluctuation of ascites.

e. Again, the phenomenon so distinctive of œdema—pitting—is always present. Sustained pressure leaves the impression of the fingers; if we attempt to pinch up the infiltrated integument, by so doing we squeeze the fluid from it; and, on releasing it, depressions are left corresponding with the parts pinched.

f. Another appearance, and one which should always raise a suspicion of œdema wherever you may see it, because it is indeed but another form of pitting, is visible marks of the bedclothes, or folds of the patient's dress, on the skin.

The three first of these signs—the thickness of integument when pinched up, a deep-set umbilicus, and an invisibleness of veins—you get equally in very fat subjects; and for this simple and manifest reason, that fat like œdema, raises the skin, and inserts a material in the subcutaneous areolar tissue. But you will have no difficulty in distinguishing the one from the other; the proportionate distribution of fat elsewhere, the patient's condition in other respects, and, above all, the presence or absence of pitting, will leave no doubt upon your minds.

2. If the effusion is internal—free in the peritoneal cavity—the following signs will be present.

a. In the first place, if the fluid is in any appreciable quantity, sufficient conspicuously to enlarge the abdomen, there will be what is called "fluctuation". This is something very different from that quaggy tremor which I have described as characteristic of œdema of the abdominal wall. I think a better name for it would be "vibration". It depends upon the transmission across the abdominal cavity, from one side to the other, of a vibration imparted by a light stroke. It is best elicited in this way:—Apply your hand to the lateral or inguinal region of one side, and then flick or touch lightly the surface on the opposite side; you will find at

each touch or stroke a little single wave transmitted through the fluid, and impinging on the fingers on the opposite side. The sensation which it imparts can never be mistaken when once felt; and you should all of you take an early opportunity of making yourselves practically acquainted with it: it will make a clearer impression on your minds than any description of it I can give you. It differs from the spurious vibration of œdema in these three points. In the first place, distance makes no difference to it; it is felt just as plainly completely across the abdomen as half-way—indeed, I think, better; whereas the strength of the vibrations in the spurious form is always proportionate to the shortness of the distance between the part felt and the part struck. In the second place, it consists, not of a quaggy tremor, but of a single wave; the pulse on one side being transmitted unchanged to the other. In the third place, it is evidently transmitted, not along the surface, but through and by the contained fluid.

When I said just now that distance makes no difference to it I should have qualified this expression in one particular, for distance does make a difference as to the *time* at which the vibration is felt; for, if the distance is great, as from one flank to the other, the vibration impinges on the fingers at one side, at an appreciable interval after it has been imparted at the other, the interval being proportionate to the distance. This lapse of time betwen the stroke and its resulting wave is one of the most striking and characteristic parts of the phenomenon.

From what I have said you will see that a vibration felt near the part struck is of no value as implying the existence of a true so-called fluctuation. It is only when transmited quite across the abdominal cavity, that it implies the accumulation of fluid in the peritoneum.

b. In the second place, if we have fluid in the abdominal cavity we shall have dulness for percussion in the most dependent parts, and to an extent corresponding with the amount of the fluid. If the patient is supine, the dullest parts will be the flanks; if he is erect, the hypogastric and umbilical regions.

c. Again, the umbilicus, instead of being deep-set, as in œdema, is unnaturally flattened out—indeed, in some instances protruded. The distending fluid dilates the umbilical orifice, and then drives through it a sort of hernia, the fluid within which, acting like a wedge, dilates the orifice more and more, till a considerable dropsical hernia exists, raising the thin integument over it to the size of a walnut, or even half a billiard-ball, through which there is often an appearance of an opalescent transparency, like that of a hydrocele. This appearance however, is exceptional; the

common appearance of the umbilicus in ascites is merely an unnatural flatness or very slight prominence.

d. Lastly, instead of an absence of veins in the abdominal wall, there is often, in ascites, a great conspicuousness of them, sometimes amounting to a varicosity. This depends on two causes: the veins are *visible* because, by the distension, the integument is stretched and thinned out, and therefore rendered more diaphanous; and they are *enlarged*, because the incumbent weight of the accumulated fluid exercises such a pressure upon the inferior cava as to impede the return of blood through it, and compel it (the blood) to find its way back to the heart by the superficial collateral venous circulation formed by the anastomosing epigastric and internal mammary veins.

Now let me call your attention to some cases in the hospital illustrating the practical application of these rules. We have two patients with abdominal enlargement due to dropsy—Mary Jones and George Davis; and they illustrate very well the striking contrast between external and internal dropsy.

In Mary Jones's case, which is one of chronic bronchitis, the enlargement of the abdomen is entirely due to an œdematous condition of the abdominal walls. Here we have the thickening of the integument, making it impossible to pinch it up, and only in a roll an inch or an inch and a half thick; the deep-seated umbilicus; the quaggy tremor; and the pitting. The œdema of the abdominal wall is but a part of the general œdema; the legs, as you have seen, are enormously œdematous.

In the case of George Davis, which is one of mitral disease, we find, on the other hand, that while the abdomen is greatly enlarged, the abdominal wall is extremely thin; when we pinch up the attenuated skin, it has not much more than the thickness of paper. We find, too, the flattened umbilicus, almost effaced by distension; the conspicuous veins meandering over the surface; and, above all, true fluctuation.

There is one more point in relation to the diagnosis of dropsy, on which I would wish to say a few words to you.

I have two cases in the hospital at the present time, both of which are characterised by the following four circumstances:—

1. Mitral regurgitant disease;
2. A greatly enlarged liver;
3. Ascites;
4. Œdema of the lower extremities.

One of these cases is that of George Davis, to which I have just referred; the other is that of John Flynn, a boy aged 12 years, lying in the Bow Ward, Bed No. 14.

Now, with regard to their cases, the two following questions suggest themselves:—

1. Is the enlargement of the liver due to primary hepatic disease, and the ascites, therefore, true hepatic ascites? or is it due mainly to hepatic congestion dependent on the impediment to the circulation through the heart, and the ascites, therefore, not true hepatic ascites, but indirectly cardiac?

2. Is the œdema of the legs the direct and immediate result of the heart-mischief? or does it result from impediment to the return of blood through the inferior cava, produced by the pressure which the incumbent weight of the ascites exercises upon that vessel? or is it due to the pressure of the enlarged liver upon the inferior cava in the supine posture?

According to the answers we may make to these questions we shall arrive at one or other of the following conclusions:—

That the liver is the seat of organic disease of such a nature as to obstruct the circulation through it.

That the ascites is the direct result of this liver-disease.

That the liver is not diseased at all, but is enlarged because congested.

That the obstruction, therefore, which gives rise to the ascites, though immediately at the liver, is primarily at the heart.

That the œdema in the legs is due to the systemic venous stasis of the heart-disease.

That it is due to the pressure of the enlarged liver upon the inferior cava in the supine posture.

That it is due to the incumbent weight of the ascites pressing on the cava. This last will give rise to two alternatives; for if we consider the ascites due to liver-disease, then the œdema of the legs is a secondary hepatic symptom; if the ascites is due to the heart-disease, then the œdema is a secondary cardiac symptom.

You see, then, to how many alternatives our answers to these two questions may give rise.

Now, with regard to the first question—the nature of the liver-enlargement—I came to the conclusion that, in the case of Davis, it was secondary to the heart-disease—due simply to congestion; and that the liver was not the seat of any real disease at all: for the following reasons: First, the patient was of an age, 20, at which organic enlargement of the liver is not common; secondly, there was nothing in his antecedents or habits—no intemperance—to make liver-disease likely; thirdly, the liver was not the seat of any pain or tenderness; fourthly, although greatly increased

in size, it was not altered in shape; fifthly, the very existence of the ascites rather pointed to the cardiac origin of the liver-enlargement, for such a cause of enlargement would necessarily also be a cause of ascites. In the case of Flynn, I thought at first that the liver was the seat of independent enlargement unconnected with the heart; the enlargement was so great and the ascites so moderate. And even now I do not feel certain. No doubt the volume of an organ so highly vascular as the liver may vary within very wide limits according to the amount of its turgescence. We know, too, that the liver is more advantageously placed for having its circulation influenced by the state of the heart than any other organ of the body. And yet, as a clinical fact, we find it is comparatively rare for the liver to undergo any great amount of enlargement as a result of mere passive congestion from the heart-disease. Is the organ so greatly enlarged in these cases on account of the youth of the patients? Does the liver in the young yield more readily to the enlarging influence of mechanical congestion than in those of more advanced age?

With regard to the part that ascites or enlarged liver might be supposed to play in production of the œdema of the lower extremities, that question is, I think, set at rest in the case of Davis, in whom, for some days past, the ascites and enlargement of the liver have both been greatly diminishing, while the œdema of the legs has been continually increasing. Had the latter been due to either of the former, *it* also must have been diminished as well. It is clear, then, in the case of Davis that the œdema of the lower extremities is to be assigned entirely and directly to the heart.

The future of these cases, gentlemen, must resolve the other alternatives that I have indicated to you; and I have pointed them out in order that you may see how complex and dependent a symptom dropsy is, and many and what varied conditions it may imply.—*British Medical Journal.*

REMARKABLE CASE OF CARDIAC DISEASE—PATENT FORAMEN OVALE.

Dr. Bennet related before the Pathological Society of Dublin, a very interesting case of heart disease, which we condense from the Secretary's Report, as published in the *Dublin Quarterly.*

The patient, 24 years of age, died suddenly during an attack of palpitation, to which he had been subject during the last five years, dating from an attack of measles. And that there was cardiac disease appeared certain during life, but an accurate diagnosis was never made out, although he was examined and treated at different times by such men as Sir D. Cor-

rigan, Dr. Stokes, Drs, Watson and Croker. The only positive diagnosis was that of hypertrophy of the heart, fluid in left side of chest, and hepatic enlargement. At no time during the course of the disease was there any cardiac murmur, though there was evidence of organic disease in the enlargement and palpitation.

The autopsy revealed the following condition of the *heart:* The pericardium was universally adherent to the heart by connections which could only be separated by dissection. In no part of the chest was there any sign of recent inflammation. The heart was of great size; on being removed and freed of blood, it weighed, with a small part of the pericardium and the arch of the aorta attached to it, twenty-four and a half ounces. Its circumference, following the margins of the ventricles, measured 19½ inches; at right angles to the axis 12½ inches. On opening the right auricle, the cavity was seen to be greatly enlarged, and the septum of the auricles perforated in the position of the foramen ovale, by an opening, 6¼ inches in circumference; the right auriculo-ventricular opening was over 8½ inches in circumference. The right ventricle was greatly enlarged also, and its walls were thickened; the valves of both openings were free from disease, but evidently insufficient to close the openings. The ventricular septum was perfect, and ductus arteriosus completely closed. Left auricle much smaller than the right, being not much more capacious than natural; its walls somewhat thickened; mitral orifice of normal size, and valves healthy and sufficient; cavity of left ventricle and its walls normal. Aorta healthy, closed by healthy valves, but in size much below that of an adult's aorta, and the vessels springing from it, proportionate to its diminished size.

The following seems the mode of occurrence of the pathological changes: An attack of pericarditis occurred during the measles, with this pleuritis, with effusion on the left side; the combination of these two impediments of the heart's action brought into play a pre-existing patent foramen ovale; then followed enlargement of the right side of the heart and contraction of the aorta. For a long time before death, the stream of blood through the foramen ovale was evidently directed from left to right, especially during the attacks of palpitation, which were relieved by horizontal position, and never commenced while the patient was in bed. This, with the pallor of the face, observed during the palpitation, show that its principal cause was a want of blood in the vessels of the brain. This want of blood was caused by the deficient supply to the left ventricle, which resulted directly in contraction of the aorta.

The case is one of great interest, as showing how imperfect are our powers of diagnosis of cardiac disease, and for the late period of life at

which it is possible for congenital affections to give rise to fatal disease, when brought into play by some accidental occurrence. There was not in this case any symptom present indicating patent foramen ovale.

A CASE OF RESUSCITATION AFTER TWO HOURS' APPARENT DEATH BY DROWNING, OCCURRING IN THE LATE CATASTROPHE AT REGENT'S-PARK.

By John Dennan, Esq.

On the afternoon of Tuesday, the 15th instant, about a quarter past four, I received, in the absence of Mr. Obré, a summons to view a dead body just withdrawn from the ornamental waters in Regent's-Park.

While on the way I entered somewhat minutely into the particulars with my guide, and on my arrival determined to examine the subject very carefully.

The man was apparently *quite dead*, and I heard the following statement, viz:—that he had left his abode in perfect health, and joined in the general amusements on the ice, and was one of those at some distance from the shore when the catastrophe occurred. I particularly observed that the patient was intensely cold, from having been immersed some minutes, and having struggled in the water for more than half an hour. There was neither breathing nor heart's action, the pupils dilated, the jaws clenched, and the limbs contracted, so much so that the clothes had to be cut off before anything could be done to the patient.

A frothy mucus covered the mouth and nostrils, the body was much swollen and I had it placed on an incline at an angle of about 35°, as the body was so very cold. I commenced, with the assistance of two men who brought him home, to try to restore warmth by degrees, rubbing the chest and limbs thoroughly and swiftly with ice and snow, cleansing his mouth and nostrils from time to time, and adopting Silvester's method of artificial respiration for more than two hours. After a quantity of frothy mucus was discharged slight signs of animation were perceptible though so faint that I almost despaired.

I then had him well wrapped in blankets, placing large tins of hot water at the feet, and mustard poultices on the chest, while the body was well rubbed with warm flannel under the blankets. I continued this treatment for three quarters of an hour, at the same time continuing to intimate the movements of breathing. A decided improvement then took place. The patient's jaws relaxed, and he appeared to breathe more freely. I then administered two teaspoonfuls of warm water, which caused him

to vomit slightly. As soon as he commenced breathing freely I was able to give him a little warm tea, which he apparently relished. I may here observe that I could not induce him to take spirits.

The patient was now placed in a warm bed prepared for him, soothed to sleep, and all undue excitement prevented.

The patient was feverish for one or two days, but on the following Friday I had the pleasure of receiving a visit from him.—*Dublin Medical Press and Circular, 30th January.*

TREATMENT OF ASTHMA BY NITRIC ACID.

By D. C. Hewson, M.D., Galveston, Texas.

Having had several cases of asthma to treat, and having had the good fortune to cure at least two of them by the use of nitric acid, I have thought that I would give the profession the advantage—in order that others might repeat the experiment.

It is a well-known fact that the fumes of nitrate of potash will relieve a fit of asthma. It is also known that nitric acid has been extolled by the profession at large, as almost a specific in pertussis. It is also known that both of these diseases are spasmodic.

Now, if the nitrous vapour, relieve in one case and the nitric acid in the other, why should not these be used in the same disease?

The manner of giving it is to commence with nitric acid iij gtt. three times a day in a glass full of water, and increase the dose one drop every week until the patient has taken six drops; when he should desist for a week, and again commence with the minimum dose. It is an experiment which can certainly do no asthmatic patient harm, and might result in his recovery.

I have two patients at this time who are using the medicine, and certainly while they are taking it they have not had an attack.—*Galveston Medical Journal.*

Surgery.

OPHTHALMIA OF NEW-BORN INFANTS.

By O. F. Potter, M.D.

It is not proposed in the present paper to offer much that is new or original, but rather to call the attention of physicians to this important and often terrible disease, which, if not the most frequent, is still one of the most destructive to the future welfare of the little patient. Fortunately, however, it is generally amenable to treatment when taken early in its development and promptly treated.

Purulent Ophthalmia of infants occurs sometimes immediately after birth, but more frequently at from the third to the fifth day afterward, and occasionally appearing at a more advanced age. At the first indications of the disease the eye-lids appear to be glued together, especially in the morning, attended with some redness and swelling, making the lid puff out round and full. On raising the eye-lid the conjunctiva is found of a red and slightly thickened appearance. As the disease advances the swelling of the eye-lids increases and the child becomes restless, fretting and crying, and showing the greatest intolerance to the light, keeping its eyes constantly closed. When the lids are opened a whitish sero-muculent matter is observed, and the palpebral conjunctiva, when the lids are raised or everted, are red and velvety, and appear highly inflamed.

The secretion of matter is now very copious and bursts forth from time to time, and on opening the eyes the matter flows out abundantly. The discharge varies from a whitish to a yellowish grey colour, and increases somewhat in consistency as the disease progresses in intensity. In the morning the eye-lids are found tightly glued together, and opened only by soaking with warm water, or a little of the mother's milk, which readily softens the exuded matter.

When first opened there will be a free discharge of matter, and, on further examination, will generally be found a layer of tolerably thick tenacious secretion, which can only be reached and thoroughly removed by injecting warm water with a small syringe, or letting it fall into the open eye from a sponge. The cornea soon becomes implicated, and if the inflammation is not soon checked, will become more or less opaque, a portion sometimes separating entirely from the iris, penetrating through the aperture, presenting an irregular and dirty-looking prominence. In some extreme cases, all the humors of the eye are discharged through the ulcerated cornea, and the globe shrinks to less than half its natural size.

If, however, the disease is taken in time and confined to the lids, this misfortune is prevented, and while it may be obstinate and difficult to treat, will not result in any serious or permanent injury to the little patient.

The constitutional disturbances of the system are generally manifested by fretfulness, hot feverish skin, refusing to nurse, want of appetite, bowels constipated, and general febrile disturbances.

As regards the causes of this disease, I think it may arise from some acrid secretion in the vagina of the mother, affected by chronic leucorrhœa or some other morbid condition resulting from vaginal inflammation,

or among the lower classes gonorrhœal complications or the filthy condition of the person producing a discharge, which, coming in contact with the eyes of the child during its passage from the womb to external life, might be the inciting cause of this inflammatory action, still I do not consider, with some, these the only causes; and although the matter from the infant's eye applied to the adult provokes a purulent ophthalmia, and the peculiar time of its occurrence would point almost directly to such a cause, yet I am confident that harsh treatment in, or insufficient care while washing, want of cleanliness and proper care on the part of the nurse, and sudden and undue exposure to light, especially a glowing fire or lamp, all tend to promote this disease, which becomes virulent from the intense inflammatory action which always supervenes in the delicate tissues involved. I should say also that some constitutions are more predisposed or susceptible to such inflammatory actions than others, where, as for instance, a strenuous diathesis exists, with extreme debility and unfavourable surrounding circumstances.

As for treatment, we should, when we have reason to suspect any complications of this kind, be careful to inspect the eyes minutely and frequently, and on the appearance of the least unnatural redness or irritation, they should be carefully cleansed with warm water and a gentle astringent applied, such as weak alum water, say two or four grs. to the ounce. By this early attention many times the disease may be prevented from becoming serious or troublesome. But when once it has set in, and the inflammation which develops rapidly, has resulted in the purulent discharge, then no time must be lost in resorting to active treatment. The eyes must be thoroughly, yet carefully washed with warm water. The lids should be fomented so as to soften the matter which has collected on and matted together the ciliæ, and the lids then gently drawn asunder and the discharge washed away. Some resort to the use of a small syringe to inject the water, so as to remove the more tenacious part of the matter. I have found a very good way to be, to take a soft sponge or linen rag dipped in milk warm water, and after gently opening the lids, let a small stream of water pressed from it fall from a little height into the palpebral opening. This is not only convenient in the application, but most effectual in removing the discharge and cleansing the eye. This should be done every few hours, as the case requires, and after each washing there should be applied some astringent solution, as the alum water above mentioned, or a weak solution of acetate of lead or zinc, the latter of which I much prefer. Once or twice a day a few drops of a solution of nitrate of silver, say two grs. to the ounce of water with one half grain of morphia, should be dropped into the eye, the

frequency of which should depend on the severity of the case. I prefer the nitrate of silver to almost any other application in severe cases, and grade the strength of the solution to the intensity of the inflammatory action.

The astringent solution following the washing should be applied with a single fold of soft linen, so as not to be too heating, and frequently changed. The general health of the child should be especially attended to. Small doses of calomel and Dovers powders, followed with castor oil to produce free evacuations, should be given at least every other day at the onset of the disease, and followed by syrup of rhubarb. If the inflammation be very great, one or two leeches may be applied to the external angle of the eye. Some recommend that the conjunctiva of the lid be slightly scarified by running the convex edge of a small scalpel lightly across it in different directions. This is, perhaps, perferable to the leeches, as it is more readily applied, and avoids the danger of too profuse hemorrhage, and the scar which sometimes result from the leech bites.

Dr. Willson, of Dublin, recommends, in extreme cases, to clip the chemosis with a pair of curved scissors, so as to relieve the congestion and also the pressure from the globe, and particularly around the cornea. In some extreme cases he uses the scissors a second and third time with good results. He also applies a solution of sulphate of atrophia to the eye, the object of which is to keep the pupil dilated, whereby the iris is prevented, to a certain extent, from prolapsing through the cornea in case of a perforating ulcer, or even if recently protruded the atrophia will retract the iris. He also thinks that the dilatation of the pupil diminishes intraocular pressure and relieves vascularity, and therefore uses it largely in all ocular inflammations.

Under this prompt and active treatment, the pain and inflammation usually begin to subside from the third to the fourth day, and at the same time the conjunctiva assumes a paler and less irritated appearance, the suppuration is less profuse, and gradually the eyes return to a normal condition. Should, however, the inflammation not be checked, and unfortunately go on, then ulceration and sloughing of the cornea will take place, and the eye be destroyed. In such a case the general system should be sustained in every way possible, and some gentle tonic, as syrup of bark or a weak solution of quinine, given.

The mother and nurse should in all cases be warned of the contagious nature of the disease, and directed to throw away all cloths and sponges used in washing the eyes, and to have especial care as to personal cleanliness. The child should be kept in a darkened room, and of as even a

temperature as possible, as much depends on the care and attention given by the nurse for the successful treatment of the disease—in fact, almost as much as in the remedies employed.—*St. Louis Medical Reporter.*

A CASE OF THE RESTORATION OF THE POWER OF SPEECH, WITH A RETURN OF CONSCIOUSNESS, AFTER THEIR SUSPENSION FOR EIGHTEEN MONTHS, BY THE USE OF TREPHINE.

By A. Erskine, M.D.

I shall make no apology for reporting the following case, not strictly my own; nor do I feel that in doing so, I am doing the gentleman whom I prominently assisted in the operation, any injustice. Should this paper fall under his observation, he will, I am sure, be gratified at its publication, if indeed, he has not already published the case himself. It is one of much interest, and will add another to the list of cases of suspended consciousness, which have been reported in the medical journals, and in works on mental philosophy.

During my hospital service at La Grange, Ga., in the year 1864, the patient was brought to the post, in a confirmed dementia, and placed in the Cannon Hospital, then under the care of Surgeon L. U. Tuttle, C. S. A., of Vicksburg, Miss., a gentleman of ability and learning. He was a young and healthy looking Frenchman, from the province of Gascony, who had lost the power of speech, and possessed just enough intelligence to obey the simplest commands, such as walking to and from the room, spitting, wiping his mouth, etc. He would respond to the calling of his nickname, "Dash," the only one by which he was known, by a silly, inanimate smile; but made no attempt to speak; and although his eye was bright, it was almost destitute of expression, and his countenance was dull and heavy. He would sit in one position during the entire day, without motion, unless urged to do otherwise by loud and repeated calls —moving then mechanically, and with difficulty, and paying no attention to anything occurring around him. He had been passed from one hospital to another, as hopelessly incurable, and had been at La Grange for weeks before his previous history could be obtained. From some of the members of his company, who recognized him, it was ascertained, that up to the battle of Murfreesboro, he had been a lively young fellow, of good intelligence, and of active, sprightly habits, and before the war had been a ship chandler's clerk in New Orleans, where he had enlisted; that at that battle, he was struck on the head by some heavy body, which had driven in his skull, rendering him immediately insensible, and he had been left on the field as dead. He had gone the rounds of the prisons and hospitals, and during the eighteen months which had elapsed, he had

never spoken, and no ray of intelligence, beyond those simple ideas seemed ever to have penetrated his mind. His physical health was good, his appetite voracious, and his digestion unimpaired; but he had to be cared for like a child. His feet were œdematous, and his body had an anasarcous tendency. The shape of his head was singular. By the force of the blow, there was an extensive depression over the right side of the occipital bone, near the lamdoidal suture, so gradual and so general, it was difficult to say whether it was a congenital malformation, or the result of violence; a knowledge of his history alone could have determined this. The frontal bone on the left side bulged prominently, giving the head the appearance of having beeen forcibly compressed from the sides.

The case was so interesting, and at the same time so pitiable, a consultation was called, consisting of Drs. Tuttle, F. H. Evans, the post surgeon, I. M. Henson, and myself, with other medical officers at the post, to decide upon the propriety of an operation. The result was a determination to use the trephine.

Chloroform was administered, under the influence of which he vainly attempted to cry out. A T shaped incision was made through the scalp, over the point of greatest depression, and a section of bone removed. The operation was performed by Dr. Tuttle, I assisting him; and although it was done carefully and skilfully, there was no immediate result, and I closed the wounds with feelings of painful regret at its apparent failure.

The patient was put to bed, and in forty-eight hours, a violent eryispelas supervened, which nearly proved fatal. Before its subsidence, however, which occurred in a week or ten days, he began to speak—would reply intelligently "yes" and "no" to questions--his knowledge of French returning first, and he gave his name which I do not now recall. By degrees, with the healing of the wound, his power of speech was entirely restored, his mental faculties partially recovered their integrity, and he became comparatively active and useful. Was employed in the hospital as a scullion, and during the heat of the summer, he would wander into the fields in search of berries, without injury—a triumph of surgery which, while highly beneficial to him, afforded intense pleasure to ourselves.

The case of the English officer, injured on the head at the battle of Waterloo, and restored to consciousness and speech, after an interval of several years, by similar means, was so prominently before our minds, we were sanguine enough to look for like results. Being disappointed in this, we did not deem it necessary to remove a second section of bone. Had we done so, or had the instrument been larger, he might probably have recovered the entire use of his faculties.

During the war, I saw one other case of a suspension of the power of speech from depressed bone, the result of a gunshot wound. It was near the right temporal, over the arteria menengia media, and an operation was not considered prudent. The mind was unimpaired and the physical health good. Efforts at speech were abortive, inarticulate sounds only being uttered.

I presume there can be no question as to the propriety of the use of the trephine, in recent injuries of the skull, with depressed bone. I saw two cases, at least, sacrificed to delay in operating, when, by a timely interference, their lives might have been saved.—*Memphis Med. and Surg. Monthly.*

PROTRUSION OF PORTION (EIGHTEEN INCHES) OF LARGE AND SMALL INTESTINES INVERTED, INCLUDING THE CŒCUM, APPENDIX, A PORTION OF ASCENDING COLON, WITH A DOUBLE ARTIFICIAL ANUS—OPERATION FOR ITS RELIEF.

By Dr. Peyre Porcher, Surgeon in charge of the City Hospital, Charleston.

This extraordinary case, which is almost unique in the annals of surgery, merits a more detailed description than I can give in this brief sketch.

The subject, a negro man, aged 35, had been operated upon four years previously, for a hernial protrusion in the right groin, which was mistaken for a bubo. The accounts are obscure, but it was followed by the persistent extrusion of a hernial sac with the formation of an *artificial* anus.

A few days only before his admission into the Hospital, (April 26th,) he had been visited by my friend, Dr. Somers Buist, one of the Health officers of this city, (to whom my thanks are due for repeated assistance in my duties at this Hospital,) who found him in an out-house, with a tumour protruding from the walls of the abdomen. He ascertained that this remarkable extension of the disease had only occurred within a few days preceding, and he procured his admission into the Hospital.

The tumour was found to be about eighteen inches in length, of the diameter of the colon when distended; about four inches at its point of exit from the abdomen, diminishing to three at its extremity. It was raw, and consisted of the everted mucus membrane. The intestines had become completely everted, having forced their way through the artificial anus first formed, the mucus coat external; and this enormous increase had occurred only three days before his admission. It was rounded in form, with the natural peristaltic vermicular movements still

persistent, and at the portion nearest the walls of the abdomen, from where it had escaped, was an orifice, a second artificial anus provisionally established by Nature, which directly communicated with the cœcum within, and pouring out occasionally the fæcal contents of the intestines. It is difficult to describe it without a drawing. It resembled an immense caterpillar, with the slow creeping motion peculiar to the insect.

In the presence of, and after consultation with, a number of Medical gentleman, who were invited to witness it, including Drs. E. Giddings, Wragg, Chazal, Pelzer, Kinloch, Logan, Buist, Parker, Assist. Surgeon Dewitt, and others, it was determined to ablate the entire mass, as affording the sufferer the only possible chance for recovery, though with slight hope of ultimate success. To Dr. Geo. S. Pelzer, Chief of the Health Department of this city, I am under special obligations. I cut into and removed the whole mass, with the exception of a portion of the circle of intestine about an inch above the walls of the abdomen, which held the ligatures necessary to restrain the flow of blood from the mesenteric arteries. So extensive was the bleeding surface, that a number of ligatures had to be used, the compression being effected by inserting the threads, winding them in and out before knotting, by which means the several parts were successively involved. The hæmorrhage, which was excessive, was arrested, but death ensued in thirty-six hours.

The examination of the parts removed and the post-mortem, revealed a complete eversion of the mucus coat of the intestines throughout the whole extent, and protruded as described in the caption. The transverse colon and the rectum which remained within the abdomen were atrophied, the latter containing hard scybalæ and degenerated fæcal matter, converted into a substance like adipocire. No evacuation per rectum had been effected for eighteen months preceding.—*Richmond Medical Journal, July*, 1866.

POPLITEAL ANEURISM; LIGATURE OF FEMORAL ARTERY WITH SILVER WIRE. RECOVERY.

J. W——, aged forty-three. In 1862, while carrying a piece of timber, he fell with his leg under him, and strained his knee, for which he was laid up for fourteen weeks. About a fortnight before admission he noticed a kind of jumping pain in the popliteal space of the right leg, which was relieved on his sitting down, but was greatly augmented in walking or moving the leg at all. The heart-sounds are natural, and he has never suffered from any illness except the accident above mentioned.

On admission, there was a large, egg-shaped, pulsating tumour, about the size of an ordinary fist (larger from above downwards than from side to side), situated in the popliteal space of the right leg. On applying the stethoscope, a distinct aneurismal bruit could be heard. The pulsation of the post-tibial artery was weaker than in the left leg.

On Nov. 2d. Mr. Holmes first commenced flexion of the limb for two days; but on account of the severe pain it caused the patient, it was discontinued, without any marked improvement having taken place.

Nov. 4.—Digital pressure was tried for fourteen hours; but this again caused such severe cramping pains, that it was discontinued. Some little deposit had, however, commenced in the sac, and the tumour was rather more circumscribed.

6*th* to 14*th*.—The tourniquet was applied for periods of from three to six hours daily, with marked benefit, the tumour being much more circumscribed and consolidation evidently going on.

16*th*.—The tourniquet was discontinued on account of the parts of the thigh becoming so lax and the artery so movable that it was constantly becoming displaced.

Various forms of compression were tried in succession, but none were found applicable. The patient then learned to compress the artery himself, but it produced no visible effect. Then the aid of fellow-patients, assisted by the students, was called in to compress the artery for twenty minutes out of each half hour during twelve hours per diem. At first, this was thought to be producing coagulation rapidly; then the disease seemed stationary, but the bruit always continued as loud as ever. At length it became evident that the tumour was increasing in size along the popliteal space of the femur, and then it was determined to tie the vessel.

Accordingly, on Dec. 28th, Mr. Holmes cut down upon the femoral artery at the apex of Scarpa's triangle, and ligatured it with silver wire. The wound was sewn up with three silver sutures, the leg wrapped in cotton wool, and a bandage of flannel bound round it.

29*th*.—Pulse 126, thready. Passed a bad night. Leg painful; wound healthy; no pulsation in tumour.

30*th*.—Pulse 16; tongue cleaner; foot quite warm; no pulsation in tumour, which is smaller; slight redness and tenderness at the upper and inner border of wound.

31*st*.—Pulse 96; wound red, but not so hard or tender; foot warm; tumour smaller and more consolidated.

Jan. 2.—Pulse 88; wound probed, and a large quantity of pus let out; linseed poultice to be applied.

4*th*.—Wound nearly healed; no more pus exuding; tumour consolidated.

12*th*.—The wound is quite healed. The patient to get up. There is a good deal of thickening about the ligature, owing very likely to an effusion of lymph.

22*d*.—The tumour is gradually decreasing in size, and he can walk with a stick. He is to go into the country for a month.

June 23.—He was seen by Mr. Wilson, who remarks:—"The thickening about the ligature has disappeared. There is a tumour about the size of an egg, in the popliteal space very hard. No articular arteries can be detected about the joint. He still keeps the leg wrapped up in a flannel bandage, as he says it always feels cold. He is able to walk a considerable distance without limping, and has been at work for the last three months, and is now doing very heavy work,—viz., pulling down a house.—*Lancet*.

A NEW CAUSTIC.

By P. W. Ellsworth, M.D., of Hartford, Connecticut.

Will you permit me to call the attention of the profession to a new medical agent, or at least a new application of an agent in pretty general use, but whose properties are not yet fully understood, viz., sun-light?

It has been a great desideratum in the profession to devise some method of removing nævi, marks, discolorations, moles, and other diseased conditions of the skin, whether natural or acquired, without subjecting the patient to the knife, or leaving a cicatrix quite as repulsive as the original disease. A Mr. Augustus Barnes, a true Yankee, but not a member of our profession, thinks he has hit upon such an agent—first experimenting on himself upon a mole; and I am much inclined to believe he has made a valuable discovery.

He uses a lens of two and three inches diameter, condensing the rays upon the object to be removed, and going over the whole, if not more than three inches in surface, at one sitting. Mr. Barnes, who is a very pleasant, agreeable gentleman, called on me a few weeks ago, and introduced the subject. At first it did not strike my fancy, as I supposed the pain would be equally severe with other caustics, and the effects no way superior. However, I witnessed his operations with fairness, and with interest, and am disposed to give him considerable credit, and believe his discovery in scientific hands will be made more generally useful than even the inventor believes. I have seen one gentleman, who had a nævus on his face, extending from the eye to below the mouth, and involving the lower eyelid to the very edge, and covering four or five square

inches of surface; it was of a deep cherry-red colour, approaching purple, and covered with knobs of condensed tissue, an eighth of an inch high. This nævus could be seen as far off as the colour of the face. After two applications the spot has nearly disappeared, the skin generally having the hue of a surface blistered some days previously, and it is now nearly well. Some portions were absolutely like normal skin, and entirely colourless. Every knob was gone, and where stood one of the largest, and where the rays were longest condensed, was a perfectly healthy-looking cutis. I do not consider this man as absolutely well, but so much better than he would have been under any known agent, that I must confess my hopes have been considerably raised. As a deformity, or rather as a mark, this man can be considered practically cured, although there is at present the appearance stated, but which does not especially draw attention. I would add, that the rays were condensed with excellent success, even on the very edge of the lid. Mr. Barnes applies his caustic not only to discolorations, but to small tumours involving the surface of the skin, to lupus and ulcerations. He claims to have produced a true and healthy skin on the surface affected by ichthyosis.

How the light, as a caustic, operates differently from other agents, it may be difficult to say, but it has struck me that as the rays are possessed of powerful bleaching properties, it is possible this principle may be brought into play. If the pigment is destroyed, and the secreting power of the corpus mucosum changed, there may be an alteration in the colour without impairment of the cutis vera, which latter seems in all cases to have remained uninjured.

Nor is the pain as severe as we might apprehend, as it is confined at each instant to a very minute point, and therefore must be less perceptible than when diffused over a large surface. Patients at any rate submit very readily and without the use of anæsthetics. I would here suggest, that probably we may not find in this a remedy for the lead-coloured skin produced by light acting on nitrate of silver. It would be less likely to cure than when the discoloration was from some other cause, since it is the effect of light. There is this difference, moreover, that in the nitrate of silver stain the whole skin may be impregnated, while in nævi the discoloration is confined to some particular tissue or layer. I strongly suspect the skin of the negro might be changed to come degree more probably than in case of colouring with nit. silver.

As to the removal of lupus and small cancers, we may well entertain grave doubts. But as there is no proof that cancer in its incipiency is not a local disease, it would be wrong to pronounce too hasty judgment. I intend making further experiments with this agent, and hope others of the profession will do the same, and give the results to the public.

RHEUMATIC ARTHRITIS.

Clinique of Dr. Lyons, at the Richmond Hospital, Dublin.

C. D., an unmarried female domestic servant, aged 28, was eight days an intern patient at the Whitworth Hospital at the date of this report (March 6th), and had been four days ill previously to her admission. Dr. Lyons considered her case to be one of rheumatic arthritis. At the date of this report her pulse was quiet; and the disease, which had been found to affect the wrists, knees, ankles, shoulders, and hips, had entirely subsided. The mode of treatment adopted by Dr. Lyons in this case is worthy of note; not because of any originality in the means employed, which are mostly well-known and popular remedies, but in their combination, and as illustrating the rationale of a plan at once useful and easy of application.

In the first instance the patient was encased in a flannel jacket with the view of keeping up an uniform temperature in the body, and with the same object the sheets were removed from the bed, and the patient was made to lie literally "between the blankets."

In the next place the affected joints were poulticed with a mash of chamomile flowers and poppy heads.

In the third place she took a quarter of a grain of opium every four hours; and, at the same time, she was ordered a combination of three salts of potass, half an ounce of the bicarbonate, and two drachms each of the nitrate and acetate, in seven ounces of infusion of calumba, and an ounce of tincture of gentian; half an ounce of this mixture every three hours.

The *rationale* of this treatment may be shortly explained thus: the bicarbonate saturates the uric acid, and makes a soluble salt, which is washed out of the system through the kidneys under the stimulus of the acetate and nitrate. The warm poultices give immediate and permanent ease, and retain the deposit in the joints until it is taken up in the soluble form, thus preventing any repellant action which, by metastasis, would tend to drive the inflammation to the heart, The opium procures sleep, and gives great relief from pain, the patients passing through the disease with little or no suffering.

This plan has been extensively used by Dr. Lyons, and with the effect of speedy relief to the sufferings of the patients so treated; and also with the important effect of a very large proportionate immunity as regards the principal organ, the heart, less than one in twenty of such cases having presented cardiac complications. The subject of the present report, it may be further stated, got complete and permanent relief in six days after admission to hospital.—*Medical Press and Circular.*

Canada Medical Journal.

MONTREAL, MARCH, 1867.

TO OUR SUBSCRIBERS.

It is always an unpleasant task to *dun*, but at times it is absolutely necessary; and such is the case just now with ourselves. We are informed by the publishers that not a few who have received this journal since its commencement, now all but three years ago, and still continue to take it from the post office, have not paid even the first year's subscription. Others have paid the first, but not the second, and so on. Now, we are loath to believe that it can be anything but an oversight which causes this neglect. It is hard to make up our mind that so many members of our profession deliberately intend receiving the journal just so long as the publishers will forward it, without having any idea of paying for it; and yet it seems as if some, who regularly receive the journal, were so acting. How many would like to have their professional services paid for in a similar manner? Not one, we fancy. The amount asked for the subscription is but a trifle to each subscriber, and yet the aggregate is a large amount, and is a serious item to our publishers. We therefore earnestly call upon our subscribers to remit at once the amount they are respectively due; and with the amount thus received, increased facilities will be given to render our journal worthy of being the organ of such a large body of practitioners as the medical staff of British North America. Once more let us say, *pay up at once.* Let us be able to announce a noble response from our patrons in our next number. Let us not be disappointed. We are certain in most instances it is neglect. Neglect it then no longer—for we badly need your money to pay for printer's work and paper. Send on the money.

New Chemical Toy.—"Pharaoh's serpents," "Devil's tears," and "Vesuvian tea," have paved the way for the reception of a new Chinese wonder, in the shape of "ferns growing out of burning paper." This is a neat little experiment, free from many of the disadvantages of "Devil's tears" and the lozenge-shaped crystals of bichromate of ammonia, which may chance to prove too inviting to children's

tastes. The instructions direct us to crimp or fold the yellow papers backwards and forwards, so that, when opened out, they may be supported upright in a zigzag form. One of these slips is then placed upright on a plate, and ignited in two or three places along the upper edges, but without being allowed to blaze. It will burn slowly down with a red glow, diffusing an agreeable perfume, whilst the ash of the paper assumes the most fantastic arborescent shapes, together with a green colour, which, to a lively imagination, may be suggestive of the growth of ferns and lichens. We had no difficulty in imitating this effect by saturating thin cartridge paper, in the first instance, with an alcoholic solution of gum benzoin, and, when dry, apply an aqueous solution of bichromate of ammonia. The decomposition of the latter substance by heat, in contact with burning paper, affords an explanation of the phenomena observed.

MEDICAL NEWS.

EARLY STRUGGLES OF MEDICAL MEN.

Dr. John Cheyne, who, a quarter of a century ago, was by far the busiest and best employed physician in Dublin, tells us, in his interesting autobiography, that, during the first half of his second year's settlement in the Irish capital, and when he had already reached the thirty-fourth year of his age, his fees only amounted to about three guineas. Nine years subsequently, he was making £5,000 annually. Not above one or two physicians in London ever drew, I believe, a larger professional income, or, perhaps, ever advanced more early into full practice, than Dr. Chambers; yet, during the fifth year of his practice, when he was already thirty-four or thirty-five years of age, he did not receive above £211 in fees. Seventeen years subsequently, his annual professional income is stated to have reached nearly to £9,000. His great predecessor in high London practice, Dr. Matthew Baillie drew above £11,000 in one year; and yet, with all the interest of the Hunters and others to aid him in his outset, his first march upwards was, like that of all others, very slow and difficult, and, to quote the words of his biographer, Dr. Wardrop, "before he found himself fairly established in practice, he had been already for twelve years physician to St. George's Hospital, and for nearly twelve years a medical lecturer." Dr. Baillie's uncle, the celebrated Dr. Hunter, who spent a large fortune, gained by his profession alone, upon the collection of that splendid museum which now enriches the University of Glasgow, was so hard pressed for money during the years of his earlier struggles in London practice, that he was obliged to postpone for a for t-

night the commencement of the third season of his lectures, in consequence of not having money enough to pay the expense of the usual class advertisements. Nor have our greatest surgeons been usually more successful than these our great physicians in the first stages of their professional career. In 1788, the son of an English clergyman attended the medical classes of Edinburgh University, and lived on the third flat in Bristo Street, in a room which cost him six shillings and sixpence a week. In after life, when swaying the surgical scepter of England, as Sir Astley Cooper, his professional income, in one single year, amounted to £23,000; and yet, during the first twelve months after he had settled down in London, and was working as a lecturer on anatomy and surgery, his receipts from private practice only amounted to five guineas. The distinguished surgeon who, by Sir Astley's death, was left at the head of the surgical school of London, Sir Benjamin Brodie, did not, as we are told in a late biographical sketch of him, get into "full practice" till 1825: yet he had been lecturing, practising, and publishing, since 1805, or for twenty long years previously. (*Leisure Hour.*)

Dr. Trousseau, the great physician of Paris, died the last week of November, very suddenly.—During the first week in February three ladies passed the preliminary examinations in Arts at the Apothecaries Hall, London, previous to being admitted to the study of medicine.—Small-pox is epidemic in London. In the small-pox hospital the numbers admitted are largely in excess of any time since it was opened. The mortality among the unvaccinated is 40 per cent., and among the vaccinated 7 per cent.

A Bullet in the Heart for Thirty Years.—Prof. Hamilton has presented to the Pathological Society of New York the heart of a patient aged 44. A bullet was imbedded in the apex of the heart, which had been lodged there from a musket-wound received when he was 14 years old. Six weeks after the injury he returned to work. He was married in 1845. His last illness was ascribed to cold. The ball was surrounded by atheromatous deposit. The heart was dilated, but not hypertrophied.—*British Medical Journal.*

Syphilis Communicated by a Kiss.—At a recent meeting of the Chicago Medical Society, a member related the history of a young woman, whose irreproachable character left no doubt of her narrative, who experienced all the horrors of syphilitic inoculation, through a kiss from a gentleman to whom she was engaged. A chancre upon the lip was the result, and subsequent medical investigation revealed the fact that the young man was under treatment at the same time for syphilitic ulceration of the throat.—*Druggists' Circular.*

CANADA

MEDICAL JOURNAL.

ORIGINAL COMMUNICATIONS.

Lectures on the Pathology and Treatment of Joint Diseases. By Louis Bauer, M.D., M.R.C.S., Eng., &c.

III.

CLINICAL CHARACTER OF JOINT DISEASES.

All joint diseases have some symptoms in common. Of these pain is the most prominent; usually the first to appear, and the last to disappear. Clinical observation discerns two kinds of pain—one emanating directly from the diseased structure; the other proceeding in a circuitous manner from the spinal cord, and manifesting itself in parts not directly connected with the affected articulation.

The former is known by the term of *structural* or *inflammatory pain*; the latter as *reflex*. The structural pain varies in extent, intensity, and duration, according to the tissues implicated, and to the nature and extent of the malady. In some instances the pain may occupy but a small and circumscribed place; in others it may be diffused over the entire articulation, and extend even beyond it.

Its intensity may vary from the sensation of heat and soreness, to the degree of burning, lancinating and pulsating; and be equally variable in its continuance.

The morbid condition of the affected structures does not always furnish a satisfactory explanation of the degree of pain; but too often one is out of keeping with the other. Thus, for instance, a mere ephemeral rheumatic synovitis, and in hysteric affections, the pain, for the time being, is very intense and largely diffused, whereas, in hydrarthrosis but little inconvenience to the patient arises from a similar source, The general affection of an entire articulation, with advanced disintegration of the various tissues, may exist for months, and yet be attended with comparatively little suffering, whilst on the other hand, affections apparently trifling, may create a storm of symptoms and intense agony.

In structural pain therefore, but a conditional semiotic importance can be attached. In this respect the same axiom rules as in the healing art generally—"that but the congruity of symptoms is the base of diagnosis."

Notwithstanding all this, some general rules can be recognised as a guide at the bedside:

1st. The structural pain is commonly proportionate to the nervous endowment of the tissue affected.

2nd. The pain increases and diminishes in proportion to the progress and regress of the disease.

3rd. The pain is rendered more intense by false position of the articulation.

4th. The pain increases when the affected structures become subject to centrifugal distension by effusion of whatever composition, and to irritation by pus, loose sequestra, and foreign bodies.

5th. The pain is augmented by touch and motion.

6th. Whatever induces and increases pain, hastens the advance of the articular disease, and vice versa.

The so called reflex pain is obviously of a neuralgic character. Being excited by the local disturbance, the morbid impression is conveyed to the spinal cord, the common centre of irradiation; thence it is reflected backward to the muscles appertaining to the affected joint, and sometimes to the next articulation; as for example, the almost pathognomonic pain at the knee in coxalgia.

The latter mode is rather an exception, and an isolated clinical fact, which may be explained in this manner: "that the same nerve (obturator) supplies both joints with sensitive fibres, warranting the supposition of irradiating in the closest proximity."

From the fact that the reflex pain occurs commonly during night and the sleep of the patient, it must be inferred that the trophic or ganglionic province is principally, if not exclusively involved. But a few exceptions have come to my notice to which I shall refer in due course. You are perhaps aware that I was the first observer of these reflex pains; at all events, I was the first who called attention to them, and explained their character and operation. Perhaps they might have escaped my observation as well, had I not for a time shared the same roof with patients of this class, and had not thus an opportunity been afforded me for studying this singular symptom in all its bearings.

One night, after having left my patients profoundly asleep with the lights lowered, my attention was suddenly attracted by a peculiar shriek emanating from the sick room. Within half an hour the shriek was twice repeated.

Though well acquainted with the different voices of my little patients, I could not discern to whom the cry belonged. It was in so peculiar a note, high, shrieking and short, commencing with a full intonation, and terminating as abruptly. In entering the room, I found everything and everyone as quiet as I had left them shortly before. The only noticeable change was an acceleration in the breathing of one of the patients.

Whilst thus contemplating and watching him, he again uttered the same shriek, rose into a sitting posture, rubbed his eyes, stared around with a terrified expression, and sunk back upon his bed, continuing his scarcely interrupted sleep. In another ten minutes this scene was re-enacted, with almost the same concomitants. During several of these paroxysms I observed a peculiar quiver of both the adductor and flexor muscles of the thigh. The rest of the joint was evidently disturbed by it, and the pain accompanying the quiver must have been of an agonizing character, for the patient automatically grasped the affected limb, as if to arrest the involuntary movement. His rest for the balance of the night was disturbed by moanings, and repeated attempts to changing his position. I found the aspect of the patient much changed on the following morning; he looked pallid, haggard,and prostrate; he was of morose and irritable temper, his pulse excited, and his appetite indifferent. The tenderness of his joint had signally increased. Whilst the abduction was more difficult and painful than before, the entire group of the adductor muscles was as tense as if possessed of tonic spasm.

In continuing my observations for successive years, I have seen this very symptom in almost every aggravated case of joint disease in structural affections of the spine, and in acute periostitis in the proximity of joints. In all these cases it is invariably of the same type, though varying in intensity. The greatest violence of reflex pains we observe in morbus coxarius, and in affections of the knee joint.

It is rather remarkable that the patients thus afflicted do not remember these nocturnal pains, and that the shrieks of different patients are almost invariably of the same note and duration.

It may well be said these shrieks are as characteristic of joint disease, and as important in its diagnosis, as the peculiar croup tone in diphtheritic laryngitis, and the cries of a parturient woman in the last period of confinement.

As already remarked, these reflex pains occur almost exclusively during the night, and whilst the patient is dormant.

In a few exceptional cases, however, I have met the symptom under inverse circumstances. In one case (Schindler) the pains continued for several days and nights, and kept the affected member with but short

intermissions, in a constant state of clonic spasms, and until the flexors of the leg had been divided.

They may be met with, irrespective of time, when contracted muscles are put upon the stretch.

Whenever the reflex pains prevail, the patient suffers most severely; loses flesh and appetite; becomes anæmic, and prostrate, and the disease of the joint progresses with marked rapidity.

According to my clinical experience, the reflex pains chiefly accompany bone diseases, and in these they are most severe. In synovitis they are certainly much milder, if at all present.

In some instances the reflex pains assume the character of genuine neuralgia, and follow the course of the principal nerves; in others they discharge their violence upon certain groups of muscles, painfully oscillating and cramping them, leaving them in a state of cataleptic tension.

With the symptom of reflex pain, two others are very soon ushered in:—

1st. *Attenuation of the affected member.*

2nd. *Muscular contraction.*

The wasting of the affected extremity is as common a symptom of articular diseases as it is conspicuous. The adipose tissue becomes rapidly diminished, and finally extinct; the muscles lose their bulk and normal contour, the bones lose in circumference and length; the extremity assumes a cylindriform shape; its growth is arrested; the animal heat is below the standard of the body, and in cold weather the extremity presents that mottled appearance which is so common in paralysis.

The symptom of attenuation is co-ordinate with that of muscular contraction, and never observed without the latter.

Among the many hypotheses advanced in explanation of this symptom, that of Barwell is about the most superficial, ascribing it to the permanent compression of the capillaries within the muscular structures. At best this theory would apply to the waste of muscles, but leaves the other structures of the extremity out of account.

Without entering into a digest of the various opinions, I shall content myself with offering my own. It requires, indeed, no great pathological acumen or diagnostic sagacity to reduce that symptom to its proper source. It consists not only in the diminution of substance, but the arrest of growth is so prominent, that impeded innervation and impeded nutrition must be charged with the mischief, for which pathology furnishes ample analogy.

In club-foot, for instance, the very same conditions prevail, the same attenuation—the same arrest of growth and development—the same

reduction of temperature, co-existing with muscular contraction and malposition.

The muscular shortening in joint diseases is well known to careful observers, but its pathological character has as yet not been fully appreciated by the profession. In carefully analysing the facts in the premises, I shall encounter no difficulty in establishing views fully consistent with the nature of the symptom in question.

1st. I have already adverted to the influence of the reflex pain upon certain muscles appertaining to the affected articulation, setting them into a most agonising quiver. This symptom is, indeed, so common, that its peculiarities may be ascertained beyond a shadow of doubt.

2nd. When these muscular spasms subside, they leave its structure in a state of rigor, or stationary retraction and tenderness, which, however, gradually disappear, if no new spasms set in.

3rd. Every attempt at elongating the so retracted muscle, by gradual extension, is very painful, and not rarely it is resisted by returning spasms.

4th. Faradayism renders the state of so retracted muscles still more tender, and not seldom gives rise to greater and painful shortenings of the muscular belly.

5th. During anæsthesia the muscular retraction relaxes and allows full extension, which, in some instances, may be successfully perpetuated by appropriate appliances. In others, the retraction re-appears with the cessation of the anæsthetic effect; the muscle remains tender and jerking. If, under these circumstances, the extension be persisted in, the articular disease becomes aggravated.

6th. Persistent retraction terminates in structural changes of the muscle, and destroys its expansibility, both physiologically and experimentally. Faradayism produces scarcely any excitation whatever, and chloroform anasthæsia exercises no marked influence upon its tension. Thus the muscle, having attained its maximum of contraction, and that contraction being rendered permanent by organic changes of its structure, the term contracture has been fitly applied to that condition.

Dr. Benedict, of Vienna, maintains that a constant galvanic current possesses the power not only to reduce the contraction, but to establish the physiological expansibility of muscles so affected. I have, however, not seen a single case at his clinic in the general hospital of that city that could be accepted in proof of his views.

Nor can the successful *brisement forcè*, without myotomy, pass as evidence, since the violence generally employed is quite sufficient to tear asunder all resisting structures—myolemma or muscular fibres—thus

virtually accomplishing the same results as would be produced by dividing the contracted muscle.

7th. The subcutaneous division of the contracted muscle overcomes both resistance, spasm, and attending pains.

8th. The division of contracted muscles exercises the most beneficial influence upon the affected extremity, in promoting its nutrition, growth, and development. Even the muscles themselves become more bulky and susceptible to the action of Faradayism.

The contractures of muscles, force of course, the affected extremity into a position corresponding to their respective traction, and they become therefore the source of malpositions.

In all joint diseases some muscles, or group of muscles are invariably contracted to the exclusion of others. Thus for instance, in morbus coxarius, we find the adductor muscles of the thigh, and some of the flexor muscles materially shortened. Among the adductors, the pectineus; and among the flexors, the tensor vaginae femoris, are the most implicated. In consequence of these contractions, the affected extremity is unduly flexed, and adducted and rendered apparently shorter than its fellow, the disparity being increased by the elevation and rotation of the corresponding side of the pelvis. In affections of the knee joint the biceps muscle is commonly the only one contracted, and but exceptionally the remaining flexors become involved. Hence the affected member is more or less flexed at the knee joint, and in the higher degree of flexion, the leg is rotated on its longitudinal axis, and the toes everted. This position implies an anatomical derangement of the respective parts of the joint, the external condyle of the tibia receding, and the internal, protruding in front of the joint. In affections of the tibio-tarsal, and tarsal articulations the peroneii muscles are retracted, and thereby the foot rotated so as to give it the position of talipes valgus. In affections of the wrist joint we meet with contractions of the flexor radialis and ulnaris, with abnormal flexion of the hand; sometimes but one of those muscles is shortened, and the hand has a corresponding leaning in its direction. In affections of the elbow joint the biceps muscle and the pronator teres are involved keeping the forearm in a state of pronation and flextion. In affections of the shoulder joint we notice the contraction of the pectoralis major, with adduction of the arm to the body, &c.

It is self evident that the contraction of certain muscles in certain joint diseases is by no means accidental but governed by the supply of co-ordinate nervous fibres. Schwan by his very careful and minute dissections, has fully established the fact, that such a co-ordination of nerves exists, supplying joints and muscles. And Hilton, another reliable ana-

tomist, has affirmed that anatomical arrangement. But even without these anatomical facts, clinical observation would be justified in such an inference.

In most joint diseases there is more or less immobility. To a certain extent the immobility is of a voluntary character employed by the patient to obviate the pain caused by the exercise of the affected joint. Frequently, and in advanced cases, the immobility may arise from hydraulic pressure upon the articulating surfaces, by effusion into the joint, as may be seen in the second stage of hip disease, and in some affections of the knee joint with unyielding and thickened walls.

The deposits of osseous material around the joint, and osteophytes, will produce the same effect. Muscular contractions are a material impediment to the mobility of affected joints.

I have already referred to malposition of the respective affected articulations, as one of the general symptoms attending articular diseases, and adduced its most prominent cause. There are however other causes which occasionally bring about that result. One of them is the gradual disintegration of the epiphysis. Next the separation of the epiphysis and its dislodgement from the shaft. Another, the fracture of the epiphysis eventuating in joint disease. The last though not least is effusion within the articular cavity. The experimental injections into joints made by Weber and Bonnet demonstrate that liquids forcibly thrown into the articular cavities through an aperture of a stationary bone will force the moveable part of the joint into certain positions denoting the greatest capacity of the articulation.

Similar changes in the position of joints are produced in the living body by effusions.* But in order to accomplish this the walls of the articulation require to have been rendered unyielding to the process of inflammation, in which case the effusion acts like a wedge driven between the articular surfaces. As long as the walls remain flaccid, or retain their healthy elasticity; an immense quantity may be accumulated in the joint without any effect upon its position, as is the case in ordinary hydrathrosis.

Last, I have to mention fever, as one of the common symptoms of joint diseases. This symptom is merely of temporary duration, and accompanies only the higher grades of these affections, their inflammatory periods, or at times when a mighty local irritation exists, be this through foreign bodies, sacculated pus, or the like. It generally subsides with the removal or alleviation of the local disturbance. In all these instances the fever is

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* Collateral with more or less perfect immobility.

strictly symptomatic. Rheumatic affections of joints are however, ushered in with marked febrile excitement, which seems to form an essential part of the morbid process.

Profuse and continuous suppuration of joints is mostly attended by hectic fever, which presents the usual characteristics. But rarely do we meet with pyaemia, caused by affection of the joints. I do not think that I have seen more than a dozen cases, in all in my practice. The latest refers to a little girl, eleven years old, of very delicate constitution. From causes unknown, she was attacked almost simultaneously with an affection of the left tibio-tarsal joint, and periostitis of the corresponding tibia, both disorders eventuating rapidly in suppuration. A few weeks after the first attack, a large abscess had formed during one night, at the left hip, another soon afterwards made its appearance below the right clavicle, soon to be followed by a third in the right hip.

It is yet doubtful in my mind whether this case does not come under the head of spontaneous pyemia, a form which is seriously doubted by some authors, or whether pyæmia resulted from the original affection.

Notes of a few interesting Cases occurring in Practice. By FRANCIS WAYLAND CAMPBELL, M.D., L.R.C.P., London; Member of the College of Physicians and Surgeons of Lower Canada; Physician to the Montreal Dispensary and Hospital for sick children; Member of the Dublin Microscope Club; Member of the Royal Medical Society of Edinburgh, &c., &c.

Puerperal Convulsions.—On the morning of February 14, 1866, I was requested by my friend Dr. Craik to take charge for him of a Mrs. D., wife of a city Missionary, who was then in labour, as he was called by a professional engagement to leave the city. I visited the patient about mid-day, and found that very early in the morning, labour pains had set in, and had continued with considerable regularity. On examination the os was found to be dilated to the size of a shilling—and the presentation natural. This was her first child, and to all appearances she was strong and healthy. She was in good spirits, and I left her promising to return in a couple of hours. On visiting her at two o'clock—the pains were stronger and more frequent, and on examination I found the os dilated to rather more than the size of a half-dollar, and that the waters had burst. Anticipating from appearances a tolerably speedy delivery, and being anxious that I should stay, I determined to remain. The pains continued tolerably regular, and with considerable

force till about half-past three o'clock, when, without the slightest warning, she was seized with a terrible violent convulsion. I at once sent for my forceps, but, before they arrived she was seized with a second fit, more violent than the first, the face becoming almost black, so intense was the congestion.. On the cessation of the convulsions, she was extremely violent, attempting to throw herself out of bed, screaming at the top of her voice, and with both hands attempting to tear the vulva. At four o'clock precisely, I administered chloroform, and when thoroughly under its influence, I applied the forceps, and extracted a fine average sized living female child, which is still alive, (April 1867). The uterus contracted well, and I had just delivered the after-birth when Dr. Craik arrived. He had only been in the room a few minutes when the patient was seized with a third convulsion, equally as severe as any of the preceding. We both agreed upon the advisability of bleeding, and I accordingly took from her arm fully twenty ounces of blood, the effect being most marked. During the fit and intervals the pupils were greatly dilated, and it was not until after venesection that consciousness returned. After waiting an hour, and there being no return of the convulsions, we left, having previously ordered for her a mixture, giving her twenty minims every three hours of tincture of digitalis.

February 13, 9 p.m.—Dr. Craik and I met in consultation. Patient has had about an hour's sleep. No recurrence of the convulsions. To have a small quantity of gruel containing a little milk. Not having passed water since the morning—a catheter was introduced, and about twenty ounces of urine drawn off. It was examined the same night, and found to have a sp. gr. of 1020. On testing for albumen it contained an enormous quantity, the urine in the test tube becoming almost solid. We examined the condition of the patient's feet, which were slightly œdematous, and the face was somewhat pasty. Pupils somewhat dilated.

February 15.—During last night had a rigour which lasted fully half an hour. Considerable discharge from vagina. There is slight tenderness on pressure over the whole of abdomen, tongue coated, pulse 124 with a tendency to hardness. Pupils still dilated, ordered a turpentine stupe to be applied to abdomen, followed by a hot linseed poultice—vagina to be syringed out with hot water, and to have a powder containing one grain of opium, and two grains of calomel, every three hours.

February 20.—Rather better, no rigours, and the abdominal tenderness has been relieved by the stupe and poultice. Tincture of digitalis to be discontinued. From this date, the patient continued steadily to improve, until the 20th, when, without permission she got out of bed for a few minutes to arrange the things in the room. At

four o'clock on that day I was sent for and found that shortly after returning to bed, pain had commenced in the abdomen, and had constantly increased in severity. On examination, there was considerable tenderness all over abdomen, but more particularly in the left iliac region. Considerable difficulty in passing water, tongue coated, pulse 104 with a tendency to hardness. Countenance anxious. To have thirty drops of tincture of opium at once, and a turpentine stupe to the abdomen. To have a calomel and opium powder at six o'clock. At eleven o'clock saw patient with Dr. Craik,—much about the same. Thirty drops of tincture of opium to be repeated.

February 22.—Patient much better, pulse reduced to 92. From to-day the patient steadily improved, and on the 7th March was allowed out for a drive.

On the 27th January, 1867, I was called to attend her again in accouchement, Dr. Craik her medical attendant, being engaged at a similar case; on my arrival I found the child born and dead. My opinion is that the child had been dead for about a week, which is corroborated by the fact, that, for about that time she had noticed the presence of several of the signs which denotes the death of the child. Singular to say, had had no convulsions, although as I am informed by Dr. Craik there was considerable œdema of the legs, with abundance of albumen in the urine. I am informed that she is again pregnant, and expecting her accouchement in November next. I hope she may escape as luckily as she did in her last, although I hardly think it is to be expected.

Lodgment of two Pins, measuring three inches each, in the Urethra.—On the evening of the 22nd March, 1865, E. L. called upon me, stating that the previous evening, while *en route* to visit a lady acacquaintance, accompanied by two of his friends, he was thrown down, and a large shawl-pin was forcibly thrust into his urethra. The reason of this somewhat novel procedure, he informed me, was that the two who thus assaulted him were rivals of his for the affections of this young lady, and knowing or fearing his success, determined thus to render useless his reproductive organ. On examination, I found an uncommonly large and placid penis, giving evidence of its owner being addicted to the habit of masturbation. In the urethra, with half of its body in the bladder, could be distinctly felt a large shawl pin, which had evidently been introduced with its head first. The bladder being full of water, I directed him to empty it, in the hope that the force of the stream would do something towards dislodging it. This procedure being unsuccessful, I oiled my right-hand finger well, and introduced it into the rectum, and, with the left, attempted by manipulation, to force it out. As can

very readily be imagined, this was a work of no little difficulty, as the sharp point coming first, continually pierced the mucus lining of the urethra. During half an hour I managed to move it about a quarter of an inch, but beyond this it baffled all my exertions to stir it. A considerable hemorrhage resulted, (and not having any instrument such as I deemed necessary for the case in my possession,) I drove with him in a sleigh to the Montreal General Hospital, where I borrowed a long narrow pair of forceps. Dr. Drake, house surgeon, was kind enough to give me his valuable assistance, and we both made several ineffectual attempts to extract it. After numerous failures, which caused considerable hemorrhage, we at length succeeded in bringing to the light a strong shawl-pin, measuring exactly three inches in length. On examination, much to our astonishment, we discovered that a second pin occupied a position almost similar to that of the first. Numerous attempts were made to extract it in a similar manner; but owing to the torn and lacerated condition of the mucus membrane, we found it impossible to move it more than about an inch. We accordingly thrust it through the urethra; and, when all but the head of the pin was out, I cut down with a scalpel, and relieved it. For about a quarter of an hour there was a good deal of hemorrhage, but it finally ceased, and the patient was sent home, with instructions to keep his bed, and to apply hot fomentations to the part. He was ordered the following mixture: ℞ mag. sulph. ℥ ss., ant. tart. gr. ii., aq. ℥ vjii. M.; a tablespoonful to be taken every four hours. Next morning, upon visiting him, he said he felt quite well. There were not any signs of inflammatory action. Only took two doses of the medicine, as it made him vomit. Still to remain quiet. Next day he visited me, saying he felt quite well, and on the third day he resumed his occupation. There is no doubt in my mind but that the first pin had been used for the purpose of producing irritation, and being seized by the urethral muscles, passed beyond his reach. The second pin was doubtless used in attempting to get out the first, when it, in its turn, was carried out of sight. This, I informed him, was my opinion, which he indignantly denied. It has not, however, shaken my belief.

Traumatic Peritonitis.—Jeremi Focault, a carter in the employ of Mr. John Campbell, cooper, was driving a cooper's two wheeled waggon containing about fifty empty barrels to Redpath's Sugar Refinery, on Monday afternoon, July 23rd, 1866. While sitting on the side of the shaft, he became drowsy from the intense heat, and slipped off, falling on the ground with his face upwards, the wheel of the cart passing over his abdomen, between the umbilicus and the margin of the floating ribs.

He was carried home, and shortly after seen by a medical man, who ordered him a dose of castor oil, and the application of hot linseed poultices. On Tuesday morning I was requested by Mr. Campbell to take charge of the case. On visiting him I found him in the following condition:—General appearance of uneasiness, and referring great pain to his right side, a little below the margin of the liver, which is exquisitely tender to the touch, but bears pressure moderately well over the other portions of the abdomen. Tongue covered with a creamy fur; pulse 90, and of moderate volume; skin hotter than natural; patient is nervous and anxious to know what are his chances of recovery. The castor oil had not operated. ℞ hyd. chloridi, gr. ½ pulv. opii, gr. ii; one such powder to be taken every three hours. 3 p.m.—Vomiting has set in; pulse 100 and full; skin very hot; abdomen tense and tympanitic on percussion over its entire extent. The slightest attempt at pressure is very painful, and exquisitely so below the margin of the floating ribs on the right side; ordered two turpentine stupes to abdomen, followed by hot linseed poultices to be changed every hour. To have beef tea and powders to be given every two hours. 11 p.m.–Symptoms getting worse. Countenance somewhat pinched, pulse 120, and smaller. He is lying on his back with his legs drawn up, and cannot bear the weight of the bed clothes. To have beef tea at frequent intervals, and calomel to be increased to a grain; another turpentine stupe to be applied. July 25th, 10 a.m.—Patient passed a restless night. lies in same position as noted at last visit; pulse 140 and very small; vomiting frequently; tongue brown and dry; skin somewhat cold. Same treatment. Bowels not moved since accident. 3 p.m.—Dr. Squire saw the case with me. Patient's features pinched; face of a bluish color; eyes sunken; surface of body covered with cold perspiration; voice hollow, and cannot speak above a whisper; tongue brown, but hardly so dry as at last visit; great abdominal distension. Tympanitic on percussion, except on left side of median line, where Dr. Squire thinks there is light dulness. It is however, not very distinct; pulse 146; vomits about every half hour. Continue treatment, and to have brandy and soda water every two hours. 10 p.m.—Evidently much worse; so indistinct is his voice that it is with difficulty what he says can be understood; Bowels have moved once; body covered with cold clammy perspiration; vomiting has been incessant, and thirst intense; for which he was ordered small pieces of ice to suck; pulse has increased to 150, and is very thready, and at times irregular; dulness on percussion is now quite distinct all over abdomen, which seems distended to its utmost capacity. Every thing seemed to point to a speedily fatal issue. Same treatment continued, and to have a dessert spoonful of brandy with the

same quantity of water every hour, with beef tea at frequent intervals during the night.

July 26, 10 a.m.—Fore part of this morning was very restless, but about five o'clock he had, for the first time since the accident, an hour's continuous sleep. The pulse has fallen to 125, and is stronger; tongue is moist, and his general appearance shows an improvement. Says he feels better, but still complains of a good deal of pain in abdomen. Hot poultices to be continued; calomel and opium powders to be given only every four hours, and calomel to be reduced to half a grain, and opium to one grain.

July 27th.—Patient decidedly better this morning; pulse has fallen to 110; can now stretch his legs and bear slight pressure; tongue shows indications of cleaning. From this date the patient gradually improved until the 3rd of August, when, without the slightest warning, violent diarrhœa set in, which resisted treatment. On the 4th, as I was unwell and confined to the house, Dr. Craik saw him for me, and informs me he was then in a complete state of collapse; the evacuations being almost rice water in their character. On the 5th he had somewhat rallied, but towards the evening gradually got worse, and died on the morning of the 6th August.

I was anxious for a *post mortem*, but the friends would not listen to such a proposal.

Accidental Poisoning by Aconite. Recovery.—Mrs. C. H., a well-known actress, sent for me on the 13th January, 1866, for an attack of acute gastritis. On the 18th she complained of severe neuralgia, for which I ordered the following liniment: chloroform, ℥ i; tinc. aconite, (Fleming's); tinct. opii. ā ℥ ss. About midnight on the 16th, Miss R., who had just returned from performing at the Theatre, was asked by Mrs. H. for a table-spoonful of the mixture which she had been taking for several days. The lamp being low, and not being aware that a liniment had been ordered, Miss R. by mistake gave her a table-spoonful out of the bottle containing the liniment. At once she exclaimed, "I am poisoned!" A messenger was immediately despatched for me, and within fifteen minutes from the time the dose was swallowed, I was in attendance. She was almost pulseless, extremities cold, great restlessness, and complaining of much numbness in the tongue, mouth, pharynx, and fingers. Two drachms of sulphate of zinc were speedily given, which not acting with sufficient promptness, I followed by a large tumblerfull of mustard and water. This brought on violent efforts to vomit, but without ejecting anything worth speaking of. I accordingly obtained a few feathers, and tickling the fauces, soon induced copious vomiting, which I

kept up for three quarters of an hour. I then gave brandy and champagne alternately. After about two hours' copious stimulation, during which time the emesis continued to some extent, the pulse rose considerably, and a general warmth pervaded the body. About 3.30 a.m. (three hours from the swallowing of the poison) she was so much better, that I considered her out of danger, and left.

January 17. Made my visit to-day at eleven, and found my patient doing very well, though still weak. In the course of a few days she was quite well, and took part in a performance given by the officers of the garrison at the Theatre Royal, on the evening of the 22d January. The quantity swallowed was two drachms of chloroform and a drachm of tincture of aconite and the same quantity of opium.

Limosis and Parageusis. By W. MARSDEN, M.D., Ex-President, and Governor Col. Physicians and Surgeons L. C.; Hon. Fel. Medico-Bot. S. Lond.; Cor. Fel. M. S. Lond.; Hon. Fel. Path. S. M.; Hon. Fel. Med. S. and Syc., Nat. Hist. Bocks.; Hon. Fel. Med. Chir. Soc., New York, &c., &c.

Such cases as the following are very interesting, and shew how much more important a part fluids play in the economy of nutrition, than solids. Here we have milk doing the work of nutrition as well as bread, beef and potatoes; and why not? Milk appears to partake of the nature of both animal and vegetable food. Milk contains casein, fat and sugar, and we have the casein or curd, and the fat or butter representing the fibrin and fat of beef, and at the same time a large proportion of sugar which is much increased by "molasses and sometimes a large lump of sugar," which represents the starch of wheaten bread.

The general pathologist is sometimes embarrassed to find a significant term or names for certain morbid conditions of the human economy, or perplexed to find a system of nosology to which to refer certain cases of diseased action; and such is my position in the present instance. In the case I am about to narrate, there is *morbid taste* as well as *morbid appetite*, which renders a classification more difficult or complex. It will at any rate I think be conceded, that it is entitled to a place among the "*cas rares.*"

Many persons from birth, or some after period of life, are capable of taking an enormous quantity of food into the stomach, without any habit of indulgence, but who do not increase in bulk in proportion to the quantity taken; on the contrary, are often meagre and emaciated. Others

from mere habit eat very much more than is necessary to carry on healthy vital action, and suffer correspondingly. Others again live on an inconceivably small quantity of food, and enjoy perfect health. Others live and thrive upon a solitary article of food constituting a monivorous class, if I may be permitted to originate a term; and others live entirely on fluids and continue healthy. I am acquainted with a strong healthy active and lusty farmer, who resides in the District of Three Rivers, that has lived for very many years entirely on milk, whose taste is perfect, and who enjoys his food exceedingly. I cannot at present, (but may hereafter) refer to some interesting cases of this latter kind, for which I have been consulted; but will now confine myself to a solitary case, for which I am indebted to A. A. Andrews, M.A., M.D., of Windsor, Canada West, which I transcribe literally. It was addressed to me, dated August 26th, 1866, and is as follows: "Engrossed as I know you are on the subject of cholera, I do not suppose that one disease wholly absorbs your study, but that matters of general interest in the profession obtain a share of your attention, and a very singular case having come under my notice yesterday, I have determined to transmit you an account of it.

I was requested to see and prescribe for a patient of my friend Dr. Donelly. It was a well-marked case of jaundice. The patient informed me that she had never eaten in her life. "Je n'ai jamais mangé de ma vie." Taking this to be a mere *façon de parler*, and to signify merely that she had habitually a poor appetite, and for as long as she could remember had never made a hearty meal, I paid no particular regard to the statement, but closer investigation elucidated the following relation, which I have every reason to believe *literally* correct.

Clothilde Chauvin, æt. 25, married four years since, to Joseph Mayeux; both parties born and residing at Pointe des Roches in this county. When she was about three month sold, she had whooping cough very severely, and the vomiting that attended it was protracted, and brought her to death's door. On weaning, any attempt to give her solid food even in the most trifling quantity, and in the most attenuated form, was invariably followed by immediate vomiting. Bread, crackers, flour or arrowroot in the *smallest* quantity added to her milk, never failed to be at once rejected. Her death from inanition was expected from day to day and from week to week, but instead of dying, she throve wonderfully. It was then confidently predicted she could not survive her seventh year, but she passed that period without any sickness worth a moment's care. The age of puberty was then allotted as the utmost possible limits of her life, but she attained full womanhood without knowing what it was to be

sick. Her (would be *savant*) friends now assigned her majority as the period of her assured death, but she preferred mariage, and at 21 was married to the aforenamed Mayeux, and at 23 became a mother. She is now far advanced in her second pregnancy—the first time that she remembers ever to have been sick. I asked her what her weight was, and she appealed to her husband, who said he believed it was one hundred and forty pounds. I am inclined from the size and solidity of her arm to believe he underrates it. Working in the harvest field she says, no girl ever went before her; playing on the hay mow, neither boy nor girl could handle her. "What do you live on?" I asked. "*A bowl of milk with two tablespoonfuls of molasses three times a day and sometimes a lump of sugar which I suck.*" I observed to her, that if she had not tried to eat, she could not tell whether she could swallow or no. She said "she had tried again and again, and that she *could swallow very well.*" "Then it seems you do eat, only you reject what you have eaten." "Instantly," was the reply. "How long is it since you made the last attempt to eat?" "Seven or eight years." "Have you eaten nothing since you were married?" "No, nor for many years before—no kind of solid food has gone inside my lips, nothing but milk, molasses and sugar." "Fruit, raspberries or strawberries?" "I have put them on my tongue to see if I could taste them, but never attempted to swallow one, *but I have no taste, I can taste nothing.*" Whether this last statement is *absolutely* true I did not ascertain by special enquiries, but she led me to suppose that, salt, vinegar, or gall alike failed to produce any impression: in fact, that the gustatory nerves were paralyzed or wanting.

I would have pursued my inquiries, but she had 24 miles to ride, and I did not feel warranted in taking up more of her time.

The mere fact that existence has been maintained for 25 years on this diet is not so amazing, as the large amount of physical strength developed under it. Of the truth of the whole narration I have not the least doubt, and I think it a really surprising case. In appearance she resembles a stout well developed French "Habitant" woman. The doctor adds. "I begin her history, as she gave it to me, with the whooping cough, though, how far (if at all) that is connnected with the case, I am not prepared to say."

I hope to be able to return to this subject again.

CORRESPONDENCE.

Lodgment of a Lead Pencil upwards of six inches in length, in the Bladder and Urethra; successful extraction through the Perineum. By the late THOMAS WALTER JONES, M.D., Physician to General Hospital, Montreal.

To the Editor of the Canada Medical Journal.

SIR—My lamented friend, the late Dr. Thomas Walter Jones, when in England two or three years back, placed in my hands the notes of the following two cases, for publication in one of the Medical Journals. As they never appeared, I think the best medium for communicating them to the profession is your well known Journal, more especially as the cases occurred at Montreal.

I am, Sir,
Your obedient servt.,
GEORGE DUNCAN GIBB., M.D.

London, March 18th, 1867.

Of the various freaks to which the male urethra is subjected, the following is perhaps as extraordinary an instance as any recorded, for it resulted in the lodgment of a wooden lead pencil over six inches long in the bladder, with a small portion of it projecting into the urethra. It was owing to this latter circumstance that extraction through the perineum proved comparatively an easy proceeding. Had it been wholly lodged in the bladder, its removal as a firm unbending body would have offered probably considerable obstacles.

Michael Creigh, a native of Ireland, aged 48 years, applied at the Montreal General Hospital, in December, 1862, for surgical assistance. He stated that he had a foreign body in his private parts which caused him great pain; he was in a semi-flexed position, and said he could not straighten himself as the body was piercing the back of his bladder. He was immediately stripped of trowsers and placed on a table with knees bent up. On being interrogated, he said he had been a victim of self-pollution for many years, and that the ordinary manner of practising it had lost its effect upon him, and that he had taken to the introduction of a foreign body into the urethra in preference. He said he was a stevedore by occupation, and had always a large pencil with him, and this instrument was what he was in the habit of using. This pencil had slipt from his fingers, and had gone into the bladder, so that it was press-

ing against the back of the viscus, whilst the upper end was coming through under the scrotum. Upon examination a hard substance was found presenting itself as the patient had stated. The usual forceps was introduced to withdraw the pencil with the assistance of the finger in the rectum, but the head of the pencil being rounded, it always slipt off, and the neck of the bladder spasmodically contracted around it. It was impossible to move the body; the head of the pencil was besides partially enveloped in a fold of the urethra which prevented the perfect application of the instruments. I determined therefore to cut down upon the pencil and extract it through the perineum.

The patient was placed in the position for lithotomy; the head of the pencil presented itself nearly midway between the anus and scrotum; an incision was made through the raphé into the membranous part of the urethra, when the head was seized, with a little difficulty, by a pair of strong forceps, and the entire body extracted. It required some force to withdraw it; there was slight hemorrhage from the transverse artery of the perineum, which required a ligature to control it. The after treatment was the same as for a case of lithotomy, and the patient left the hospital in a week, quite well, with a strong determination not to try any more "pencilling by the way."

The pencil was six and a quarter inches long, a quarter of an inch in diameter, and called in trade "No 3 Rehbacks Express Pencil."

Phasia or Loss of the Power of Expression, from Hemiplegia of the Right Side of the Body.

Isabella Ord, aged 32, a native of Ireland, was admitted into the Montreal General Hospital, on the 15th November, 1856, under my care, with complete paralysis of the upper and lower extremities of the *right* side of the body, accompanied by loss of speech, although there was perfect freedom of motion in all the muscles of the tongue and parts adjacent. From her husband it was learnt that this paralysis had attacked her on the fifth day after her last accouchement, and was preceded by rigors brought on by walking barefooted across the cold floor. She is the mother of seven children, and had always recovered well from previous confinements. Unfortunately on the occasion of her last, she was very poorly provided for, there being no stove in her room, and not even a sufficient supply of bed clothes.

The heat of the affected side was natural and moist, and the sensation not much impaired. The muscles were not flaccid; the pupil natural, eyes bright; the tongue moist and when protruded no inclina-

tion to either side; she understood questions when put to her, but only answered yes or no, without having any command over the utterance or indicating what she really wished to say. This was proved by the shake of the head, which correctly indicated what she meant, although the tongue did not utter it correctly. She generally uttered yes or no several times for the same thing. Would open and close her eyes when told to do so. The pulse was small and not quick. No apparent pain in head, or increased heat; no intolerance of light; she remained quiet on her back, with perfect command over the sphincters. The bowels were easily acted upon by medicine.

On the day after her admission a blister was ordered to be applied to the back of the neck. The following is a synopsis of her subsequent history and treatment whilst in the hospital.

Nov. 18.—The blistered part was dressed with savin ointment; and half a grain of the iodide of mercury was ordered three times a day.

Nov. 23.—The iodide of mercury was suspended, salivation had occurred. Frequent ablutions of warm water to the mouth and gums, subsequently alum gargles and nitrate of silver topically were necessary to arrest it.

Dec. 10.—A sixteenth of a grain of strychnine ordered three times a day, and biniodide of mercury ointment to be rubbed into the neck.

Dec. 14.—Considerable vesication has followed the use of the ointment, it was therefore suspended. At this time she had acquired some power in her leg, being able to draw it up in bed; the faculty of speech too was slowly returning, she was able to say a few words.

Dec. 18.—Friction of the affected parts, with the hospital liniment, conjoined with tincture of Cartharides.

Jan., 2, 1857.—Slight twitching of the muscles, strychnine to be suspended. At this time electricity was applied to the arm. The first application was scarcely felt, but being persevered in, she began to acquire strength in the arm, so that by the 20th she was able to draw the hand on to the breast. On applying the electricity over the region of the deltoid muscle the patient complained of great pain and tenderness in that part. There has been no apparent wasting of muscular substance, either in the upper or lower extremity.

Feb. 3.—Ordered sulphate of zinc and quinine, three times a day. She was allowed to sit up, on the 2nd March. In the middle of April, she was put on minute doses of strychnine—1-50th of a grain.

June 7.—She left the hospital, being now able to speak plain, with the exception of a slight impediment. She could move the arm up to the head, although she was still unable to open or clench the hand.

She became pregnant afterwards, and was delivered of a child and recovered her health perfectly. She died July, 1858, quite easy, conversing until a moment before death.

Cas de fécondité prolongée. Par M. le Dr. Longpre, Papineauville, C. E.

Dme. Léon Goulet, de Curran, H. C., agée de 36 ans, n'a pas d'enfants, mais est mariée depuis dix ans, et est malade depuis trois ans et trois mois.

1o. Ses menstrues sont supprimées; 2o. Elle commence à enfler au 5e mois de sa maladie, une tumeur est doutée dans son sein; 3o. Au 10e mois de sa maladie, elle est prise comme de douleurs d'enfantement qui durent trois jours, alors éjections d'eau qui lui font douter l'hydropisie, et l'enflure diminue un peu; 4o. Ses menstrues reparaissent au 12e mois de sa maladie et elle est toujours bien réglée depuis jusqu'à deux mois avant sa mort qui est survenue le 1er avril dernier; 5o. Depuis le 12e mois de sa maladie, à intervalles, elle souffre horriblement de ses entrailles, et de son côté, retention d'urine et extrémités inférieures toujours froides; 6o. Elle perd l'usage d'un bras, au 24e mois de sa maladie, elle éprouve de grandes douleurs. Trois abscès s'ouvrent sur cette extrémité et coulent jusqu'au moment de sa mort; 7o. Mal de tête et pas de repos, par moments, du commencement à la fin de sa maladie; 8o. Appétit toujours bon et intestins toujours réguliers jusqu'à quatre semaines avant sa mort. Appelé à faire l'autopsie avec mon confrère, A. McLanon, M.D., nous procédons.

Les petits intestins adhérents à la matrice qui est dans un état de décomposition à son fond, et la matrice elle-même adhérente au péritoine. L'os utérus stricturé. Un foetus à terme et sans décomposition que la dite Dame avait conçu et porté depuis trois ans et trois mois.

Telle a été la durée de cette maladie, et tel a été le résultat de notre autopsie.

REVIEWS.

Clinical Observations on Functional Nervous Disorders. By C. Handfield Jones, M.B. Cantab.; F.R.C.P., London; F.R.S. Philadelphia: Henry C. Lea. 1867. Montreal: Dawson Brothers.

In the introductory chapter, the author says: "Of all the parts which go to make up the wonderful whole of the human body, there is none to which a deeper and more mysterious interest is attached than to the

nervous system;" and with truth he might have added, and none the treatment of which was more unsatisfactory. It is true that within the last few years such men as Brown Sequard, Radcliffe, Jones, and others, have thrown considerable light upon this class of affections—yet, for all our additional information, we still are compelled to treat empirically that class of diseases, which are often conveniently called "*Nervous.*" It is, however, only by a constant accumulation of facts that we can hope to be able to understand nervous diseases as thoroughly as we comprehend those of the chest. The work before us, we are told, is little more than a truthful record of experience, and an endeavour to view that experience in the light of scientific research; and this, we think, is its great value It is copiously illustrated with cases, all of which seem to have been selected with a special view of drawing conclusions from the action of the remedies administered. This is a feature which renders the book a particularly valuable one to the busy practitioner. The work is divided into thirty-nine chapters, embracing among them chapters on Cerebral Anæmia, Anæmia of the Spinal Cord, Delirium Tremens, Tetanus, Epilepsy, Sciatica, Angina Pectoris, &c. In the chapter on delirium tremens, Mr. Jones, after giving the opinion of Dr. Marston, that the disease is generally due to the sudden cessation of the stimulus after a long debauch, says:—

"He argues, I think, convincingly and conformably to the analogy of other similar agents, that the nervous system becomes habituated to the constant use of alcoholic stimulus, so that, although more or less injured by it, it feels seriously the deprivation. Probably most of us have some familiar experience of a similar kind. Thus men who have been accustomed to take wine or beer moderately have tried to leave them off for some reason or other, but found their efficiency for work so much impaired thereby, that they were obliged to resume their usual allowance. This is on a minor scale much the same thing as occurs in some cases of delirium tremens. On the other hand, it seems to me that if this disease was invariably the direct result of alcoholic poisoning, the good effects of abstinence ought to show themselves very speedily and decidedly, so as to put the matter out of all question."

Speaking of the treatment of the disease, Mr. Jones says:—"Tartar emetic boldly exhibited is often our sheet anchor in delirium tremens, especially when there is evidently active determination to the head. In some cases it may be given alone, in others combined with opium.* * * The action of the antimony appears to be chiefly sedative. Its direct influence is to reduce the vascular excitement of the brain, soothe the nervous system, and diminish muscular power, and its more indirect

action is exerted on the functions of the skin, kidneys, and intestinal canal. * * * * * * * *

Believing as we do that delirium tremens, except in cases of acute occasional excess, is much more than mere alcoholic poisoning, we cannot doubt the propriety of administering judiciously the ordinary so-called stimulants. If the system appeared to be in a state requiring them, we should sanction their use without any reference to the causation of the disease."

The volume is a most admirable one—full of hints, and of practical suggestions; and all who read the work will, we are sure, rise from its perusal feeling better able to treat that class of disease, which come under the title of "Functional Nervous Disorders."

The Functions and Disorders of the Reproductive Organ in Childhood, Youth, Adult Age and Advanced Life, considered in their physiological, social and moral relations. By WILLIAM ACTON, M.A. M.B. Second American from the fourth London edition. Philadelphia: Lindsay & Blakiston. Montreal: Dawson Brothers.

It is rather more than two years since we noticed in our columns the appearance of the first American edition, and while we then took occasion to speak in the very highest terms of the ability of its author, and the enthusiasm which he had thrown into his work, we expressed our dissent from the general way in which he treated the social and moral aspect of the question. We are glad to notice that in the present edition this fault has been in a great measure overcome, and we believe this result is due to the fair and honest criticism which it received from the Medical press. In the preface to this last edition, the author says, "I may perhaps be permitted to repeat that the largest part of the time and pains it has cost me, has been bestowed on the minute weighing of every sentence, in the hope that in my treatment of a subject so novel and difficult, and in many respects painful, nothing may remain to which fastidiousness itself can *fairly* object." We believe the time thus occupied has been well spent, and we can now fully and conscienciously recommend this work. Within the last year, the subject of masturbation has excited a good deal of attention among the profession, and the philanthropic generally, and various remedies have been suggested to abate its prevalence, which is said to be astonishingly great. Mr. Acton goes into the causes which give rise to this most pernicious habit with great care; but we think he has omitted one cause, which in our opinion operates very strongly upon the young mind so susceptible of impressions. We

allude to the habit which many parents have of allowing their children of both sexes to sleep in one bed till they attain a considerable age. It is an evil fraught with gigantic results, and we would have the voice of the profession raised against it. Mr. Acton has given the latest opinions upon every subject embraced under the comprehensive title of his book, and those of our readers who may desire to get the fullest and latest information on the functions and disorders of the reproductive organs, should obtain this volume from our publishers.

Surgery.

LIGATURE OE THE BRACHIAL ARTERY.

(Under the care of Dr. Fayrer.)

G. G., a Hindoo, aged 20, was admitted into the Medical College Hospital on December 3, 1866, with profuse hæmorrhage from two deep incised wounds on the posterior and outer aspect of his left forearm. They were inflicted in the night, with a sharp knife, by a thief whom he was attempting to arrest in his house. The wounds were several inches in length, deep, and dividing the integuments, supinator and extensor muscles, and several arterial branches. Nine ligatures were applied by the House-Surgeon on admission, and the arm was placed at rest on a pillow. He bled again on December 6. This hæmorrhage was arrested by pressure. After this, although he was considerably reduced by the first loss of blood, the wounds took on healthy action, and he appeared to be doing well. But, from a movement of the arm during the night, when he probably struck the wound against some hard substance, bleeding recurred on December 15 from several points. Ligatures were applied, but would not hold, the granulating tissues were so soft and brittle. Acupressure was tried, but also failed; pressure was equally unsuccessful. As he was very weak and losing blood rapidly, I put a ligature on the brachial artery at the bend of the elbow, which at once completely commanded the hæmorrhage.

December 18.—There has been no return of hæmorrhage. The wound is looking healthy, and his general condition is improving. Temperature of the arm slightly diminished.

20th.—He is doing well. Wounds healthy. Temperature of forearm still low, but vitality perfect. He looks and feels much better.

21st. —A sharp attack of hæmorrhage occurred to-day from the wound, arrested by pressure.

23rd.—No more bleeding. Is doing well.

25th.—Doing well. Ligature on brachial artery came away to-day.

28th.—A collection of pus has formed above the wound, very near the elbow-joint. Pus evacuated.

31st.—No extension of the mischief. Wound looks well. He is improving in general health.

January 1, 1867.—He is doing well. Wounds healing. Passive motion of the elbow-joint ordered, as it has stiffened from inaction.

10th.—The wounds are all rapidly cicatrising. A faint thrill of pulsation can be felt in the radial artery of the left wrist.

15th.—He is nearly well, and is rapidly regaining the use of his arm and his general good health. A faint pulsation is perceptible in the radial artery of the injured limb.

Remarks.—This is an interesting case. It shows the advantage of ligaturing the main artery in certain traumatic cases where the bleeding vessels cannot be secured at the seat of hæmorrhage. The softness of the tissues here rendered any attempt to ligature the bleeding points useless, and left no alternative but that of deligation of the main trunk. Hæmorrhage, as might have been expected, occurred on the sixth day, but during this interval the progress of repair had so far advanced that pressure was then sufficient to control the subsequent bleeding. The time gained was therefore of the greatest advantage, and allowed the reparative changes to be so far completed that when hæmorrhage recurred it was easily arrested by pressure. It is interesting to note the gradual return of circulation in the radial artery. The ligature on the brachial being applied in front of the elbow-joint and below the " anastamotica magna," the collateral circulation was soon re-established.—*Medical Times and Gazette.*

ON SPRAINS IN CHILDREN.

M. Guersant recommends that cases of slight sprain should be treated either by binding wadding around the joint, or by methodical kneading or shampooing (*massage*). This last may be resorted to immediately or some hours after the accident, provided always that there be tumefaction and infiltration of the soft parts, a bandage moistened with a spirit lotion and a little extract of lead being afterwards applied. The hands having been greased with lard, gentle and prolonged pressure should be exerted on the limb from below upwards, the *séances* being repeated more or less often according to the severity of the sprain. In slight cases the patient is enabled to walk after one or two of these; but when the sprain is more severe, the shampooing may have to be repeated for several days. Where there is great swelling and severe pain, leeches should be resorted

to; or cold may be kept applied by means of wet compresses or continuous irrigation. At the end of a few days a bandage should be lightly applied, to be followed when the swelling has all subsided, by a starch bandage, which may be retained for a fortnight, month, or even longer.

M. Guersant especially alludes to the sprains produced in children by the mischievous practice of suddenly raising them by a single arm, the limb being more or less twisted into a state of pronation or supination, with distension or stretching of the joints at the wrist and elbow taking place. It is very rare for fracture or dislocation to be produced in this way, but the appearances may be such as to cause alarm to the friends of the child, and sometimes even to the medical attendants. In ordinary cases, there is no appreciable deformity present, but the movements of the parts give great suffering to the child, and on the execution of these a sound is sometimes heard, without seeming to proceed from any precise spot, such as might be produced by the sliding of articular surfaces on each other. Quite suddenly, after the execution of some of the movements, the child ceases to complain; and without our seeming to have done anything to remedy the defect, he becomes enabled to move the arm as before the accident. Sometimes, however, the pain persists, and there may be great tenderness around some one of the articulations. It is not always possible to make a correct diagnosis in these cases; but when neither fracture or dislocation can be detected, a sprain may be said to have been produced—*i.e.*, a sliding of the articular surfaces with distension of the ligaments; or, in other words, a tendency to a dislocation which has not been effected. The accident is not always confined to the wrist or elbow, and may implicate more than one joint. The arm should be kept at right angles, either in supination or pronation, according to the preference of the patient. The child then complains no more, and in three or four days is cured. If at the end of this time pain persists, a starch bandage may be applied for eight or ten days.—*Bulletin de Thérapeutique.*

VALUE OF ARSENIC IN HEMORRHOIDS.

In the March number of this Journal we called the attention of the profession to this new application of arsenic.

We have just received from an intelligent medical friend, of long professional experience, the following note which confirms the statement made by us at that time.

Dear Doctor: Some eight weeks ago I had an attack of hemorrhoids, which so far incapacitated me for any physical exertion that the exer-

cise of carrying the least burden, or even continuous walking for any length of time, would be the cause of great pain and external tumefaction. Having had, within the last twelve years, repeated attacks of the kind, which were only relieved by nature's dangerous method, *suppuration*, or by extensive local depletion by leeches or the lancet, I expected in this instance a like termination. About two weeks ago I concluded to try Fowler's solution, though I must confess with only the slightest degree of faith in its efficacy. I used ten drops of it three times a day. On the third day I felt partially relieved, and four days after was fully restored.

I know the import of the *post hoc propter hoc* fallacy in reasoning, have heard say that it takes more than one swallow to make a summer, and am as slow of belief in new remedies as any one, but I am fully persuaded that I have been relieved of this most troublesome disorder by the agency of the arsenical solution so timely brought to light in your valuable Journal. J. C. B.—*Cincinnati Journal of Medicine.*

A SILVER FORK SWALLOWED AND DISCHARGED BY AN ABSCESS IN THE HYPOGASTRIC REGION.—RECOVERY.

By Dr. A. H. Van Andel.

A woman, aged 64 years, and affected with melancholia, was admitted August 31st, to the Asylum for the Insane at Zutphen. Some days before her entrance, she had swallowed a silver fork. She was desirous of following the example of a recent patient. who had committed suicide by swallowing a fork, and on whom gastrotomy was performed, the patient dying a few days subsequently. When the patient was seen, she was very calm, and expressed a desire to be operated upon as soon as possible. Repeated examinations were made, to discover the presence of any foreign body in the stomach. The shape and direction of this organ left me no doubt that the fork was actually in the stomach, and that its point was directed forward and upward, the handle a little backward and in the direction of the pylorus. There was no complaining of pain, but a feeling of uneasiness in the epigastric region. Neither the general nor local condition of the patient presented grave symptoms. No active treatment was employed. On December 6th, the points of the fork—which, up to this time, could be felt with the fingers—were not noticeable on palpation; and there was observed on the left side of the abdomen, a little above the umbilicus, a tumor somewhat of the size and shape of a gravid uterus of four months. Beyond this, there was no severe symptom. The tumor remained in the same condition for many months; but in April, it be-

came less regular in outline. In place of being convex, it now presented a depression at its lower part, which was painful to the touch, and the skin was adherent over it. In the month of May, an abscess formed, on a level with this depression, about three fingers' breadth above and to the left of the umbilicus. Swelling, puffiness, and redness of the skin increased; and on June 9th, the abscess opened spontaneously, permitting a little pus, and some brownish-colored and fetid fecal matter to escape through the minute openings. A careful examination of the fistula failed to discover any traces of the fork. "On June 12th," says M. Andel, "I was witness to a rare sight. The four prongs of the fork were projecting two thirds of their length through the walls of the abdomen, on a level with the fistula. M.M. Darchys and Zehn can verify this. On careful manipulation, the fork could be wholly reached by reason of the intervention of the walls of the abscess. Two incisions made, one on either side of the prongs, allowed the removal of the fork, which had a perpendicular direction, as was ascertained. The handle was covered with fecal matter, brown-coloured and stinking. Being washed it was of a grayish-black colour, and numerous crystals were deposited about the middle of the shank. A chemical examination showed that the color was due to the sulphuret of silver, and that the crystals were formed of calcareous phosphates. The fistula was dressed, and the discharges, which flowed away on the following day, were examined with care, but found to contain only fecal matter. The opening of the fistula became smaller; the discharges diminished; and on July 14th, cicatrization was complete.

The *Journal d'Amsterdam*, from which we take this account, accompanies it by some remarks worth reproducing. "The author," says our cotemporary, "lays stress upon the reasons which induced him not to perform gastrotomy, and upon the happy and unhoped-for results of his expectant treatment. Furthermore, the case is not without analogous examples. Michel Hagar reports that Dr. Sonderland had under observation a young woman nineteen years of age, who swallowed two iron forks, which were discharged by an abscess ten months subsequently. Again, Fedeli notices the case of a woman eighty years of age, where an iron fork remained in the alimentary canal for two years, and was discharged by an abscess in the right hypochondriac region. Schwab, on the other hand, extracted by gastrotomy a fork which had remained two hundred and twenty-nine days in the stomach of a young women twenty-four years of age. From all these facts, to which, doubtless, other analagous ones could be added, it follows that the best policy in such cases is not to resort to gastrotomy, but to leave the expulsive tendency of the body to work out the result."

The very remarkable absence of any grave symptoms was wholly in support of the plan adopted by M. Andel.—(*La France Medicale, January 9th,* 1867,)

URACHUS PERVIOUS AFTER BIRTH.

Dr. G. J. Townsend relates (*Boston Medical and Surgical Journal,*) the following case of this: "I was asked to see a little negro five days old, of mixed parentage, and was told he was passing his water through his belly. On inspection, sure enough, every time the infant cried or made an great exertion, the urine bubbled freely from the umbilicus. The cord had separated normally, and the child was in every other respect vigorous and healthy. There was very evident ulceration of the surface, left by the separation of the cord. The question whether the urethra was pervious was solved at the time of the visit in the affirmative, a fair stream spirting forth *per vias naturales.*

The presence of ulceration at the orifice of the abnormal duct rendered the process of obliterating it very simple. The ulcerated surface was freely cauterized, and the edges of the opening were brought into close apposition and kept there by a strip of adhesive plaster, firmly applied in a longitudinal direction. This was still further secured by a compress of cork covered with wash leather, and kept in place by being stitched to a close-fitting swathe.

The presence of ulceration in this case may be thought to have some bearing upon the question as to the manner in which the cord separates, whether by a process of ulceration or absorption. But the ulceration was evidently an accident here, and caused by the acrid fluid passing constantly over a new and delicate surface, and was healed at once by the arrest of the flow.

The patient was well in four days, when the swathe was removed.

Cases of this kind are believed to be very rare, the urachus shriveling up in the human fœtus in the earlier stages of fœtal life."

A CASE OF OSSIFIED TONSIL.

A careful examination showed the mass of the tumour to be moveable, except at its superior and posterior extremity, where it was firmly attached, and upon the superior surface of the anterior extremity it had impinged so long upon the investing tissue, that it had become denuded for about a line and a half in length, by a line in breadth, leaving expos-

ed a shining eburnated surface. From this exposed surface I was led to diagnose calcareous ossific degeneration of the tonsil, and decided upon its immediate removal.

The case being to me, and I presume to the profession, an anomalous one, I had nothing but general principles to guide me. Deeming the administration of chloroferm inadmissible on account of the vascularity of the tissue and its proximity to the larynx, I made a free incision from the base to the exposed point described, then grasped the apex firmly with a pair of ordinary bullet forceps, and twisted the mass around several times, not only to break up its adhesions, but also to produce complete torsions of any nutrient vessels which in that situation would be difficult of ligation, and then withdrew the mass without any difficulty, the hemorrhage being much less than anticipated.

The tumor when removed measured thirteen lines in length from base to apex, and eleven lines in diameter at its broadest point—and weighed one hundred and forty grains. Its whole shape and proportions are that of a well developed amygdal; its texture is that of the cancellated bone, with several eburnated points of a line or more in diameter on the surface indicated various *nuclei ossei*.—*Cin. Lancet and Observer.*

THE INTERIOR OF THE URETHRA VIEWED BY A MAGNESIUM LIGHT.

By E. Andrews, A.M., M.D., Prof. of Surgery in Chicago Med. College.

The invention of the endoscope, simultaneously by a French and by a Dublin surgeon, has opened a new field, both in the pathology and treatment of the urethra. The endoscope consists of a lamp, a perforated mirror, and an urethral tube. These, when combined, throw a condensed light into the urethra, and enable the surgeon to inspect every part of it. One of the important fruits of this instrument is, the discovery that the chronic inflammation remaining after certain cases of gonorrhœa is granular in its character, and is, in fact, the same disease as granular conjunctivitis, granular laryngitis, and granular inflammation of the cervix uteri.

Some months ago, I had an endoscope constructed after the Parisian plan, and used it with some degree of satisfaction; but there is often a deficiency of light in these instruments, rendering the view unsatisfactory, unless all parts are in porfect order. Seeking to overcome this evil, I one day procured some small magnesium wire, which, when held in the flame of a lamp, burns with a white light, whose brilliancy dazzles like the glare of the sun at noonday. Introducing the endoscope into the urethra of a patient, I caused a friend to insert the wire into the flame of the

lamp. The result was to illuminate the urethra magnificently. The mucous membrane, with every little fold or patch of varied color, was as plainly in view as could possibly be desired. It could not have been seen any better, had it been dissected and laid in the sunlight. By gradually withdrawing the tube, the whole of the canal may successively be seen as it collapses across the end of the tube. Seeing the perfection of this illumination, I have ordered a spring and some small wheel-work attached to the lamp, so that the wire may be made to advance into the flame without the help of an assistant. In this way, no doubt, the difficulty of the illumination will be fully overcome, and the urethra can be inspected almost as easily, and quite as perfectly, as the tongue.

THE PERMANGANATE OF POTASH IN THE TREATMENT OF CARBUNCLE.

By Thad. L. Leavitt, M.D., Germantown, Pa.

The beneficial effects accruing from the local use of permanganate of potash in the treatment of sloughing ulcers, phlegmonous erysipelas, and hospital gangrene, having been most thoroughly tested and proved during the last year of the war, in army hospital life, it occurred to me that its peculiar remedial qualities would alike prove successful in that most painful and distressing lesion, carbuncle, originating, as it also does, from a depressed vitality, and a morbific condition of the blood. The most satisfactory and encouraging results have been obtained in the only cases in which I have had an opportunity to employ it.

Mrs. R., *æt.* about 60 years, was visited, during the absence from town of her family physician, and found suffering terribly from a carbuncle located upon the left shoulder-blade, just above the spine of the scapula, and occupying the supra-spinous fossa. Loss of sleep, constant pain, and a naturally nervous temperament combined, induced a mental disturbance almost amounting to delirium. The tumour was in its sixth day, with all the general accompaniments, of the size of a hen's egg, tumid, tense, and shining. A free crucial incision had been made two days before, but with no relief; dense areolar tissue, puffy granulations, and sanious oozings crowded the track of the knife, with no appearance of separation or healthy action. The pulse was quick and compressible, 110 beats in the minute; countenance anxious and expressive of great pain; bowels regular. A strong solution of the permanganate of potash (℥ ss. to f. ℥ j.) was immediately applied with a brush, and a dressing saturated with it, covered with oiled silk, placed upon the shoulder. Anodynes,

beef-tea, milk-punch, tincture of the chloride of iron, and quinia were administered. The same evening, the patient was again seen, and expressed herself as feeling much relieved; pulse 98, and gaining in volume and elasticity. The next morning the dressing was removed, and already, although but twenty-five hours had elapsed, true pus had begun to form, the intense pain had subsided, and the patient to use her own language, declared it "a miracle;" the pain had vanished, the fever was gone; she had slept well, and felt some appetite for food. A few days longer the potash was continued; the slough separated, and the wound healed in the short space of one week.

Mr. C., *æt.* 50 years, shoemaker; was visited July 30th, 1866. Had been sick three days, was found suffering intensely from a carbuncle, situated upon the abdomen just below the umbilicus, of the size of a large walnut, and involving the surrounding structures in an erysipelatous inflammation. Bowels constipated; high fever; pulse 120; heavy breath; tongue furred; anxious countenance; great restlessness and general uneasiness characterised his principal symptoms. Hop and laudanum poultices had been applied, but he had been gradually growing worse, and approaching the position described, the tumor increasing daily, the parts becoming more dense, and at last an ichorous pus exuded from several small openings. Mild purgation, after which supporting and stimulant treatment was instituted. A slight incision was made, and the permanganate applied, as in the previous case, the dressings being removed once in twenty-four hours. This case was seen seven days successively; the 13th August he returned to his work, the severity of the suffering having been arrested after the first application.

Mrs. A., *æt.* about 49 years, having suffered a few days from a supposed furuncle, and the pain becoming intolerable, called in medical aid. There was found upon the inner face of the left thigh, just below the nates, a well-marked, though small, carbuncle; a very slight incision was made and the potash dressing used. No constitutional treatment at all was inaugurated; in three days all signs of carbuncle had disappeared and the line of incision was healing nicely.

The results in this case were mutually gratifying, from the fact that about six years ago the patient suffered from a series of carbuncles appearing in succession, along the spinal column, from the back of the neck to the region of the lumbar verterbræ, and, lasting all through the winter months, her dread and fear of similar suffering were very great. The permanganate of potash has been eminently successful with me in the treatment of chronic ulcers. The following case, of many years' duration and which had resisted all efforts, yielded to the remedial qualities of this preparation.

Arthur M., tavernkeeper, *æt.* 45, had a chronic indurated ulcer, of sixteen years' standing, extending over the superior face of the right leg, about four inches below the tubercle of the tibia, and spreading backward on both sides to the malleoli, covering a surface of about twenty-eight square inches, deep and burrowing in some localities, and in others merely superficial; the whole leg and foot were much swollen and anasarcous, the toes merely protruding from a shapeless mass of flesh, closely resembling the foot of a young elephant. An ichorous discharge of a horribly offensive character, together with filthy dressings, augmented the destruction of the surrounding parts.

The advice of an eminent surgeon had been secured a few weeks previously, to the effect that but one alternative remained, amputation; and indeed, all appearances favored such a decision. Proper abstinence, tincture of iron and good diet were directed. The local use of a strong solution of the permanganate of potash and judicious bandaging have already done so much for this case that, at the date of writing, the tenth application of the potash, six square inches, will more than cover the small amount of ulceration remaining, so rapid have been the healing process and the formation of firm, healthy tissue; and, in a few days more, we can confidently prognosticate a complete cure.—*Amer. Jour. Med. Sciences.*

DANGER ATTENDING EYE WASHES CONTAINING PREPARATIONS OF LEAD.

From practical observations, made at the Hospital of Saint Sauveur at Lille, upon the evil effects of Collyria containing acetate of lead, quite frequently employed as an astringent in light cases of ophthalmia, a precipitate of lead was observed upon the cornea, a layer of chloride of lead which renders it dim, and forms erosions upon it, by destroying its epithelium. Vessels are developed upon the cornea, as it were, to resist this morbid process, and the precipitate, after its disappearance, leaves behind it an ulcer of the cornea and pannus, which it is often very difficult to remove—in fact a greater evil than that which it was first intended to remedy. The sight of the right eye was thus completely lost in a case, for whom the following collyrium had been prescribed: sub. acetate of lead, ʒ ss; Sydenham's landanum, gtt xx; distilled water, ℥ v. This is barely useful in some cases of pannus; and even blennorrhagic inoculation, instituted in Belgium, seems preferable in these cases; in proof of which several cases have been published in this "Revue." It is then safer to erase it entirely from the list of eye washes.

REMOVAL OF ENTIRE ULNA.

A boy, aged 17, entered the Massachusetts General Hospital July 8th, 1866. Six weeks previously, without known cause, while working on a farm, as he had been many months, was seized with severe pain in his arm, followed by swelling. This was deemed phlegmonous erysipelas by his physician, who made incisions and evacuated a quantity of pus which was followed by improvement, but fistulous openings remained, and through these dead bone was reached by a probe. On enlarging one of these near the elbow, to give free vent to the discharge, the whole upper articulating extremity of the ulna was found loose, and was removed; and by an incision carried down the arm, the entire shaft and the lower articulating extremity were also removed, in a necrosed state. The new bone round the old was of so recent formation as to permit being cut by the knife, and allowed the sequestrum to be drawn out without force. At the present time, Aug. 26, the wound has nearly healed, and there is extensive development of new bone. Neither the elbow nor radial articulation have shown any disposition to inflame, and very good motion already exists. The general health, which had been much impaired by two or three years' service in the army, is greatly improved. It is probable that the duties of a cavalryman, which he performed, were too much for so youthful a subject, and may perhaps have been the cause of his affliction.—*Boston Medical and Surgical Journal.*

Medicine.

DETECTION OF LUNG-TISSUE IN THE EXPECTORATION OF PERSONS AFFECTED WITH PHTHISIS.

Dr. Samuel Fenwick gives the results obtained from the examination by the microscope of the expectoration of one hundred real or suspected cases of phthisis. The plan hitherto recommended of searching for pulmonary tissue in sputum has been to spread it on a flat surface, and to pick out of it with needles any portions that might appear likely to contain elastic fibre. He has, on the contrary, been in the habit of liquefying the expectoration by boiling it with a solution of pure soda, and then placing the fluid in a conical-shaped glass, when every particle of elastic tissue falls to the bottom, and can be removed and placed under the microscope, as is done in the examination of urinary deposits. In this way we has easily found1-100th part of a grain of pulmonary structure after it had been mixed in bronchial mucus; and he calculates that 1-4000th to 1-6000th part of a grain may be detected in any expectoration that may contain it. In thirteen out of twenty-three cases in which

tubercle was suspected to be in the first stage, lung-tissue was found in sputum. In seven of the twenty-three cases, there was no physical sign of tubercle, but its existence in the lung was suspected from general symptoms only; and in the expectoration from these there was no pulmonary tissue. In sixteen cases there were stethoscopic signs leading to the belief that tubercle was present; and in thirteen of them the elastic fibre was found in the mucus coughed up. There were twenty-four cases in which auscultation and percussion indicated softening of tubercle in the lungs, and in all pulmonary tissue was present in the sputa. In fifteen the physical signs were of a doubtful nature, and seven of these presented microscopic evidence of ulceration of the lungs. In twenty-five cases the stethoscope indicated cavities, and in all these there were fragments of lung-tissue in the expectoration. In two cases the author had diagnosed enlarged bronchial tubes, and in neither of them was there any appearance of elastic fibre in the sputum. In sixty-nine cases he counted the numbers and size of the fragments of lung expelled. In one specimen, coughed up in twelve hours, 800 fragments were found; and often 50 or 60 fragments were detected, where, from stethoscopic signs alone, no great destruction of lung could have been anticipated. The proportion of bronchial tubes the author found to be least in the stage of softening, and greatest where the stethoscope indicated cavities. The greatest proportion of fragments of single air-cells was found in the first stage, and the largest proportion of large fragments of lung where cavities existed. The author concluded his paper by giving a number of practical directions as to the best method of conducting the examination of the expectoration, in order to find with quickness and certainty any pulmonary tissue that may be present.—*Med. Times & Gazette.*

TROUSSEAU'S SYRUP OF LIME IN THE TREATMENT OF ACUTE RHEUMATISM.

Dr. Charles E. Buckingham, of Boston, writes as follows:

"Having for a year past used what I consider a new remedy for rheumatism, and with better success than from any other remedy, I consider it proper to ask the profession to make a trial of it. It is the syrup of lime, made according to Trousseau's prescription, as found in Parrish's Pharmacy. I have used it, according to the severity of the case and the age of the patient, in the dose of ten (10) drops, to forty-five (45) drops, and repeated in from two (2) to six (6) hours, as symptoms have seemed to demand. In but one (1) case has any opiate been required from the beginning. Two (2) cases were complicated with Bright's disease, as

indicated by the great abundance of albumen and the casts, as seen in the urine. In one of these the albuminuria entirely disappeared, and in the other it has been largely diminished.

"There has been no constipation, but generally looseness of the bowels, after a couple of days' treatment.

"The medicine is best taken in unskimmed milk, in quantity from a table-spoonful to four (4) ounces, according to the size of the dose of syrup.

For the information of our readers, we copy from Parrish's Pharmacy the prescription alluded to in the communication above:

"CALX SACCHARATUM, SYRUPUS CALCIS.—Trousseau used the following proportions for producing a solution of lime by the aid of sugar: 1 part of slaked lime, 10 parts water, and 100 parts syrup are boiled together for a few minutes, strained and diluted with four times the weight of simple syrup.

"This syrup has an alkaline taste and reaction, and is the solution of a chemical compound of sugar and lime. It is used for the same purposes as lime-water, but on account of its causticity it is necessary to dilute it considerably. It is given to children in the quantity of twenty or thirty grains during the day; adults take from two to three drachms during the same time."

Parrish's formula as above given is incorrect.

"Trousseau's own statement is of a syrup saturated with lime. "*Il se prépare en saturant le sirop de sucre par le chaux et en filtrant.*' On looking at Parrish, I find that it is to be made of *slaked lime*. This is entirely wrong. *It should be made of caustic lime.* The best formula would be to mix two (2) ounces of lime unslaked and eight (8) ounces of sugar together in the mortar, and pour over the mixture a wine pint of boiling water. Filter and add boiling water enough to make up the pint. By the use of boiling water, the operation is more rapid, and the formation of lumps is avoided. Of this I have given as much as forty-five (45) drops every two (2) hours in one case of acute rheumatism. Generally thirty-five (35) drops in half ($\frac{1}{2}$) a tumblerful of milk every three (3) hours have been enough. The diet in my cases has been left to the patient's choice."—*Boston Med. and Surg. Jour. Feb.* 28.

INDOLENT ULCERS.

By D. A. MORSE, M.D.

The most satisfactory mode of treatment for an Indolent Ulcer, around which the tissues are indurated and the surface black, with considerable congestion, is to fill the excavation with a powder composed of—as a

whele—ten parts: seven of acet. plumbi, one of pulv. opii, two of calomel. Morphine may be substituted for opium. This, while it excites proper action in the parts, relieves pain, unloads the vessels, and will sometimes change the color of surrounding parts, in twenty-four hours, to a bright red. In varicose ulcers the lead has a good effect upon the dilated vessels. Apply adhesive plaster to the limb that the pressure may aid in relieving congestion. The straps will depress elevated edges. The ulcer will heal kindly.

CROUP TREATED BY SULPHUR.

The *Brit. Med. Jour.*, quoting from the *Gaz. Méd. de Paris*, states that M. Laganterie, from observing the effect of sulphur on the oïdium of vines, has been led to administer it in several cases of croup. He mixes a teaspoonful in a glass of water, and gives the mixture in teaspoonful doses every hour; the effect he describes as wonderful. The disease is, in effect, cured in two days, the only symptom remaining being a cough, arising from the presence of loose pieces of false membrane in the trachea. Mr. L., says, that he has followed this plan in seven cases, all being severe, especially the last, in which the child was cyanotic, with protruded rolling eyes, and noisy respiration.

ON THE TREATMENT OF DELIRIUM TREMENS BY INDIAN HEMP.

By Henry J. Tyrrell, F.R.C.S.I., M.R.I.A., &c., Surgeon to Jervis-Street Hospital.

Mr. J. K., æt. 40, was admitted into Jervis-street Hospital on the 15th of January last.

Upon examination I found him in a very excited, nervous condition; his pulse 90, very weak and compressible, pupils dilated, tongue covered with a white creamy fur, stomach very irritable, bowels confined, urine scanty and high-coloured—s. g. 1020, skin cool but sweating; although he had no sleep for the last three nights, still he was quite rational, and gave me the history of his case (which in this country is a very interesting and unusual one) with great accuracy and minuteness. He said he was not an habitual drunkard, and remains as long as eighteen months without tasting any kind of spirit, but that when the desire for drink comes on he is unable to resist it. Some years ago, to avoid taking any, he commenced to use opium, and soon he required as much as four ounces of the tincture daily, to keep up the excitement which was requisite to enable him to pursue his profession as a newspaper editor.

At no time did the opium produce a soporific effect. As the opium was undermining his constitution he gave it up about a year ago, and was a strict temperance man until about a month before he came to hospital, but during the last month he consumed a quart of brandy daily. He stated that he had had delirium tremens twice, and that on each occasion the Indian hemp cured him, and that if I wrote to Dr. White, of Downpatrick, under whose care he had been, I would find he was speaking the truth.

As the use of opium was out of the question in the present case, I determined to give the capsicum treatment a trial, and accordingly I ordered two boluses, each containing 30 grs. of capsicum—one to be given every third hour. His stomach rejected the first, the second he did not vomit; they did not give any relief, as on the next day, the 16th, he was much worse in every respect, had no sleep, and his mind was evidently affected. I ordered him 3 draughts, each containing m 20 of the tincture of cannabis indica, one to be taken every third hour. He had the first at four p.m., after the second he became very excited; at eleven p.m., he got the third, and at one a.m., he fell into a deep sleep which lasted about four hours.

When I saw him at ten a.m. on the 17th, he was quite a different man; the nervous excitement was gone; he expressed himself as quite well, but very weak and hungry. During the day he drank two pints of strong beef tea, and in the evening he took another draught, as he was afraid he would not sleep without it.

He remained in hospital two days longer to recruit his health, and left on the 20th quite well. As the treatment by the Indian hemp was so satisfactory, I wrote to Dr. White to test the truth of Mr. K.'s statement, and he kindly informed me that he treated Mr. K. on two occasions with the Indian hemp, and that the effect was marvellous. The dose he gave was forty drops every hour and a-half, and that he was obliged to increase it to eighty drops before sleep was produced—altogether he used in the first attack one ounce, and in the second a little more of the tincture.

Whether there was a difference in the strength of the tincture, or that the attack for which I treated him was only beginning, it is remarkable that 60 m was only required.

I am not aware that the use of Indian hemp has been adopted in delirium tremens, at least I do not find it mentioned in the books I have consulted; and I certainly would not have prescribed it, had not the patient mentioned its use to me; and although opium eating is very uncommon in this country, at least in hospital patients, still it is of great

mportance to have a medicine which may be used instead of it, when that drug is unsuited from idiosyncrasy or any other cause.—*Medical Press and Circular.*

March 13th.

NOTES ON ARTIFICIAL PRODUCTION OF OXALURIA.

By Dyce Buckworth, M.D., Assistant-Physician to the Royal General Dispensary; Medical Tutor, St. Bartholomew's Hospital.

It is well known that certain articles of diet induce a temporary form of oxaluria. This fact has been most frequently observed after partaking of rhubarb; however, turnips, sorrel, and tomatoes likewise contain oxalic acid in various combination within their tissues. In the case of rhubarb that has been softened by parboiling, octohdral crystals of oxalate of lime may be set free in water by simply teasing out the fibres.

Now, if the urine be examined within an hour or two after taking any of the above vegetables, abundant octohedral crystals are found suspended in it—that is, they exist in the bladder before emission, and are certainly not produced afterwards. It is the exception that any noteworthy symytoms are set up by this temporary oxaluria; sometimes, however, irritation is referred to some part of the course of the urethra. In these instances soluble oxalates of soda, potass, and ammonia, as well as insolu ble oxalate of lime, are introduced into the circulation, and we need only conceive the occurrence af a simple transformation, founded on the predilection of oxalic acid for lime, to account for the oxaluria.

I desire, however, to direct attention to the results of some experiments which I performed at the suggestion of my friend, Dr. Arthur Leared. They were devised and carried out in the first instance by that gentleman, who laid the details of them before the Profession in an able lecture on oxaluria delivered in November, 1865, at the Royal Infirmary for Diseases of the Chest.* Although these experiments have for their immediate object the artificial induction of oxaluria, yet they have an important bearing on the pathology of the confirmed or permanent form of oxaluria—a grave disease.

Dr. Leared is, I believe, inclined to the view held by Beneke—that the important symptoms of severe oxaluria, as with those of so-called phosphaturia, are to be attributed more to the drain of lime from the system than to the effects of excess of oxalic or phosphoric acids respectively. His experiments consisted in examining the morning urine of

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* In vol. ii. of the *St. Bartholomew's Hospital Reports* (1866) I have recorded these experiments at length, but without reference to Dr. Leared's researches.

health after standing twenty-four hours, in order to prove the absence of oxalate of lime. At bedtime he took f. ℥ iij. of aqua calcis. On examination of the urine passed the following morning he found an abundant deposition of oxalate of lime. On another occasion he took at bedtime, after carefully examining the urine as before, gr. iij. of oxalic acid well diluted with distilled water. The examination of the morning urine next day, in this case, showed no evidence of oxalate of lime. Dr. Leared repeated both of these experiments several times, and always with the same results.

I likewise repeated them, and with the following slight modifications. After examining the morning urine that had stood for twenty-four hours, to satisfy myself of the absence of oxalates—I was taking a holiday on the Devonshire coast at the time—I took f. ℥ iij. of aqua calcis at bedtime. In an hour afterwards I passed urine. This after standing eight hours, showed a characteristic mucoid deposit of oxalate of lime. In the morning urine of next day, only a small deposit of this occurred. I should mention that I employed the microscope on all occasions. I found the same result after taking f. ℥ j. of aqua calcis in my own person, and also in the case of a strong healthy man. Thus far my results confirmed those of Dr. Leared.

I next proceeded to observe the effects of oxalic acid. I made a dilute solution of gr. iij. in water, and took a third part of this at bedtime. Feeling cramping pain in the stomach, I confess I did not like to finish the draught. In an hour I passed f. ℥ ij. of urine, and in this, after standing over night, I found a characteristic mucoid deposit, and recognised myriads of octohedral crystals. On another occasion I took gr. j. of oxalic acid in f. ℥ ij. of distilled water. Passed urine an hour afterwards, Result same as in last experiment, and I experienced no gastric uneasiness after taking the dose. It thus appeared that an artificial oxaluria, could be produced by the respective ingestion of caustic lime and oxalic acid.

It will be seen that my results with the latter do not accord wtth those of Dr. Leared, and at present I am unable to accecount for the discrepancy. I simply put forth the facts, not, however, without some diffidence, since they do not tally with those obtained by so well-known an observer as Dr. Leared.

The results are certainly remarkable. Let it be remembered that aqua calcis contains only gr. ss. of caustic lime in the ounce, and that from gr. j. of oxalic acid abundant depositions of oxalate of lime occurred in each case.

The experiments are well worthy of repetition, though it is hardly to

be expected that many will volunteer assistance in partaking of oxalic acid.

In conclusion, I may remark that the result with lime water seems to favour the belief that oxalic acid is a natural constituent of the blood, and for experimental evidence on this latter point the Profession is indebted to the labours of Drs. Garrod and Parkes.—*Med. Times and Gazette.*

70 Wimpole-street

Midwifery and Diseases of Women and Children.

CASE OF MENSTRUATION IN THE MALE.

MESSRS. EDITORS.—Permit me gentlemen, through the medium of your Journal, to lay before the profession the particulars of an anomaly, which will doubtless prove interesting to your readers.

In the month of December, 1855, while attending the medical lectures of the University of Louisiana, I formed the acquaintance of a young gentleman, who was then a student in the same school. His character and attainments were such as to commend themselves to my admiration, which subsequently ripened into friendship and intimacy.

On one occasion, in a moment of extreme melancholy, and under the influence of the confidential relations existing between us, he communicated to me, that though not possessed of the usual organs, he periodically performed the simulated functions of menstruation; and that this deviation from the laws of nature, in his person, was not only inexplicable, but the source of the most painful and gloomy reflections. I enjoyed peculiar opportunities of observation, which were faithfully improved. He had been the victim of this vicarious function for a period of three years, eliminating an apparent catamenial secretion, with the same regularity, and attended by the same indications by which it is characterized in the human female.

The fluid exuded, flowed from the sebaceous glands of the deep fossa behind the corona glandis, and was of a sanguineous appearance, homogeneous and thick. The quantity of this exudation varied from one to two ounces during each hemorrhagic period, and the duration of the periods from three to six days. The subject was then about twenty-two years of age, of a lymphatic temperament, and had never been contaminated by venereal disease. Though not prone to the indulgence of lustful passions, he was not innocent of having sometimes yielded to their promptings, which were especially potent immediately preceding his periodical purifications. I was made the sole repository of this gentleman's gloomy

secret, and have not been heretofore permitted to divulge it; and even now the injunction of silence is but partly removed.

Medical literature abounds with the recital of strange and unaccountable departures from the boundaries, to which Nature has restricted this and kindred functions. The mammary gland in man, though only rudimentary in structure and conformation, has been known to rival its congener in woman, developing lobes, vesicles, excretory ducts, and areolar tissue. Its lactiferous function has been perfected, under certain auspices, to such a degree as to yield its peculiar nourishment for an indefinite time. Women have been known to menstruate through unusual channels, and at unusual times—the anus, the mouth, the nose, the ears, ulcerated surfaces, and the very pores of the skin have been made tributary to this sexual function. Females have menstruated during pregnancy, during lactation, in old age, and even in the tender years of infancy; while others, in the vigor of life and in robust health have never menstruated at all.

But this case, so analagous in all its features to the catamenial phenomenon, has no parallel that has fallen under my notice, and I believe stands alone in point of its wide divergence from Nature.

Hoping that the subject matter of this paper may awaken inquiry, and perhaps arouse intelligent discussion, or that it may elicit the publication of similar phenomena, I have the honor to be, very respectfully,

V. O. King, M.D.

STERILITY AND DYSMENORRHŒA.

Mary H. L——came to me first in May last. She was 32 years old; had been married four years, but had no children. Though she was in perfect health, she suffered severe pain each month, at the moment the menstrual period came on. The uterus was filled with blood, which caused intense bearing down pains, which would force out this fluid, thus giving her some relief. On examination I found inflammation of the mucous membrane of the uterns. The uterus was in its natural position, but the cervix very long, and had the peculiar conical form which usually causes sterility. The cervix was so long and small, that the spermtozoids would not enter, nor the menstrual fluid pass out, without pain.

I recommended slitting open the cervix about a quarter of an inch, and dilating the canal every day, to prevent the adhesion of the newly cut edges while healing.

Since the operation was performed, she complains of feeling "very much worse;" and says "*she has had no menstrual discharge, and suffers from constant nausea and vomiting.*" I have commonly had the same result from this simple incision of the cervix.

Medical Jurisprudence.

MALPOSITION OF THE KIDNEYS.

Reported by Dr. James H. ButlerDemonstrator of Anatomy in the University of Maryland.

On the 14th of November last, a *body* was brought into the dissecting-room of the University of Maryland, presenting an extraordinary malposition of b oth kidneys.

The subject was a negro man, apparently about thirty years of age, nearly six feet in height, well formed and developed, and but little changed by sicknes. The disease from which death had ensued was evidently pneumonia, both lungs being found in a hepatized condition.

When the students who were engaged on the *body* had advanced to the examination of the abdominal viscera, an abnormal position of the urinary organs was observed; for the kidneys, instead of occupying the lumbar region, were found situated in the pelvic cavity.

Both kidneys were united, or fused into one, with a central line or raphé making a longitudinal fissure over the surface of the organs, better marked on the posterior than on the anterior part. In length, they extended from the lower border of the fourth lumbar vertebra downward over the promontory of the sacrum to the middle of that bone—in all, five inches; and in breadth measured three and three-fourth inches. The ureters sprang from the pelvis, which occupied the central anterior part of the organs, and then passed off on each side, and emptied into the bladder at the usual site.

The tumor, thus formed by the kidneys, could be readily felt by examining with the fingers *per rectum*.

The arteries supplying the organs were four in number—above, a single large trunk came from the aorta, just at its bifurcation, immediately in front of the *sacra media* artery, passed downward, and before entering the substance of the organs, broke up in five small branches; on the left side, two arteries came from the left internal iliac, near its commencement; on the right side, an artery passed into the organs from the right internal iliac.

Believing that such a condition as I have described has never been presented in any pathological work, I deemed it proper to lay it before the profession as a remarkable circumstance, and one which doubtless gave the person no trouble, and was in no wise connected with his death. —*New York Medical Journal.*

Materia Medica and Chemistry.

CHLORIDE COMPOUNDS OF CYANOGEN.—A. Gautier recommends the following method for preparing solid chloride of cyanogen without recourse to the liquid chloride. A slow current of chlorine is passed through a solution of one part of cyanhydric acid in four parts of anhydrous ether. Viscid drops form on the sides of the vessel, and after twenty-four hours become crystalline groups. He finds that the solid chloride melts at 145°, and solidifies at 130°. The bromide may be prepared in like manner.—*Bull. Soc. Chim. Paris, v.* 403.

SPECIFIC HEAT OF GRAPHITE.—V. Regnault has determined the specific heat of several specimens of natural and artificial graphite. Graphite from Canada, No. 1, gave a mean number .19866; from Canada, No. 2, mean .20198; from Canada, No. 3, mean .19113; from Siberia, mean .19879. Graphite from gas retorts, after being heated, while hot, gave mean .1968; the same kind of graphite, after being heated in a current of chlorine, gave .2000; and that from Canada, No. 3, after like treatment, gave .1977. Hard burnt clay gave .1940; therefore the ash in graphite (consisting principally of clay) has no appreciable effect on the results obtained.—*Am. Chim. Phys.* (4). *vii.* 450,

NAVASSA GUANO.—This material, which is found on the island of Navassa, situated in the Caribbean Sea, is not, like the Peruvian guano, a product of birds, but a mineral, differing from apatite by not containing chlorine and fluorine, and by containing organic matter. A company at Baltimore, U. S., work the quarries, and subjoined is an analysis by Dr. Ulex, at Hamburg:—Moisture, 1.6; organic matter, 10.4; SO_5, 31.2; lime, 34.5; CO_2, 3.3; alumina and peroxide of iron, 19.0—total, 100.0. It is stated to be imported into England.—*Polytechnisches Centralbat.*

A NEW CLASS OF COMPOUND AMMONIAS (C = 12, O = 16), BY A. WURTZ.—Pseudo-amylurea, under the influence of potash, splits into carbonic anhydride, ammonia, and iso-amylamine; this body, after distillation from caustic baryta, boils at 78.5° corr. (amylamine boils at 95), and has sp. gr. 0.755 at 0° (amylamine at 0.815); its aqueous solution precipitates metallic oxides, and redissolves cuprous oxide; if shaken with bromine, $C_5\ H_{12}\ B_2N$ is formed; the chloride, platino and aurochlorides were prepared, and are crystallisable. As in the pseudo-alcohol, so also in this base, the individuality of the amylene noticeable is preserved, as indicated by the formulæ:—$C_5\ H_{10}$, $H(OH)$ = amylenia hydrate; $C_5\ H_{10}$, $H(NH_2)$ = iso-amylamine; $C_5\ H_{11}$, (OH) = amy-alcohol; $C_5\text{-}H_{11}\ (NH_2)$ =amylamine.

Canada Medical Journal.

MONTREAL, APRIL, 1867.

TO OUR SUBSCRIBERS.

We are forced to call on subscribers to send in to the publishers without delay the amount of their subscriptions. The Canada Medical Journal will have completed its third volume in the course of another number or two; and its continuance will depend on the response which is made on the part of subscribers to this appeal. On reviewing our subscription list it is discouraging to notice the long list of delinquents; many of whom have continued to receive this journal since its first issue and have never paid for a single copy. These are facts put in as plain a manner as we are capable of inditing, and no right thinking man will differ with us in condemning this neglect; but we are willing to believe that it is an unintentional oversight on the part of those who still appear on our books as defaulters. We would put it to each member of the profession that a continuance of a want of response to this appeal is unjust to themselves and to the interests of the profession generally. We can hardly believe that so many members of our honorable profession deliberately intend receiving this journal just so long as the publishers will forward it without having any idea of paying for it, and yet it does seem as though many were thus acting. The amount asked from each subscriber is a trifle, but the agregate is an important sum to the publishers, and will decide their action in the continuance of this enterprise. To those of our subscribers who have come forward and sustained us, we return our thanks. We have laboured in the interest of the profession, and have assumed considerable personal responsibility of a pecuniary nature. In opportioning to ourselves the task of the editorial conduct of this journal, we did so in the interest of the profession at large; we did regard it as a slur on our love for our profession, that we should be unrepresented in Canada in medico periodical literature. Our task has been no light burthen, and in the conduct of this journal we have aimed at making it the organ of the profession generally without

reference to those sectional difficulties which unhappily exist. We have endeavoured to avoid all things of a personal nature and have steadily refused to admit into our columns anything which was not of general interest to the profession; how far we have succeeded it is for our readers to say. To you, then gentlemen, we leave the issue, if you are desirous of seeing the journal continue and of its becoming ultimately a medium of communication of scientific research, you must sustain us, if not, we can only allow the Canada Medical Journal to sink into oblivion and become one of the things that have been.

We have received from Dr. Kollmyer of this city, a copy of a Chart of Chemistry published by him, and from the press of John Lovell. It contains a summary of all that is required to be known of elementary chemistry both organic and inorganic, arranged in a form that is at once convenient for reference and calculated to impress it upon the memory. The old notation is retained as being the one still in general use particularly on this side of the Atlantic, but the latest ideas are embodied with reference to the symbols and decomposition of the different substances. We consider the chart as an exceedingly valuable help to the memory not only of students, but of apothecaries and medical practitioners.

THE INTERNATIONAL MEDICAL CONGRESS AT PARIS.

To the Editor of the Canada Medical Journal:

Sir,—Being anxious to do all I can to carry out the requests of the Committee of Organization for the *International Medical Congress*, which have been conveyed to me through their General Secretary, Dr. Laccond, I sent the following announcement to the *Leader* and the *Globe* of Toronto, with the view of making known the matter as speedily as possible to the profession of Upper Canada, the former of which papers had the kindness to give it a place in its next issue. I would now beg the favour of your journal, in order to reach as many of the profession as may be:

"An International Medical Congress will be held in Paris, to be opened upon the 16th August next, and to be continued for two weeks. The object of the congress is to collect information on certain specified subjects, and to advance the science of medicine, at the same time to promote a fraternal feeling among the profession of different countries by bringing face to face as many representatives as possible.

"The undersigned has been appointed by the Committee of Organization a Corresponding Delegate, whose duty is 'to solicit and gather important facts and communicate them to the General Secretary.'

"In the first place, members of the profession are invited to become members, of which there are two classes, 'home and foreign.' Foreign physicians are admitted to membership without 'any pecuniary contribution,' by simply intimating their desire to do so.

"The Committee are desirous of securing a large number of members to take part in the discussion, and likewise of receiving communications upon the subjects to be discussed during the session. Among these are some upon which Canadians may be able to supply valuable information.

"Gentlemen desirous of becoming members are invited to intimate the same immediately, and any one willing to contribute is also respectfully requested to communicate with the undersigned.

"Information as to the programme of subjects will be gladly furnished.

Address, WM. CANNIFF, M.D.,
Corresponding Delegate, &c., Belleville.

Belleville, April 23rd.

DR. RICHARDSON'S METHOD OF PRODUCING LOCAL ANÆSTHESIA.

We are glad to be able to state that within the past three months the profession of Montreal have very largely employed Dr. Richardson's anæsthetic spray producer in minor surgical operations, and with the very best results. In the majority of cases the ether recommended by Dr. Richardson was employed, although we believe rhegoline was used in one or two instance. The latter seemed to act more rapidly in freezing the part; but our impression is, that, owing to its dangerous qualities, it will never be so generally employed. We have ourselves employed the ether frequently in minor operations, and with decided success. Lately we notice its benefits have been extended to the lower animals, and we feel sure all who prize that noble animal—the horse—will rejoice at what we copy below from a late number of the Medical Times and Gazette.—For the benefit of our country readers, who may desire to purchase the spray producers we would direct their attention to the advertisement on our cover of Mr. Ebenezer Muir, druggist, who has them and the ether for sale.

LOCAL ANÆSTHESIA AND THE ROYAL SOCIETY FOR THE PREVENTION OF CRUELTY TO ANIMALS.

In accordance with its legitimate function as a public body, the Royal Society for the Prevention of Cruelty to Animals has, we are glad to see,

considered the subject worthy of its serious consideration. On Tuesday last Dr. Richardson met the committee of the Society by appointment, and after demonstrating local anæsthesia and performing experiments on himself, Dr. Sedgwick, and Dr. Fraser, proceeded to read a report on the operations which had been painlessly conducted on the horse and on other of the inferior animals. The operations of nerving, of firing, of removing tumours, of castration, and applying caustics to open and irritable surfaces, were all, the author showed, easily and readily performed under local anæsthesia; indeed, he maintained that if the members of the community demand it, every animal so valuable to man as to be considered the proper subject for a Surgical operation may now be subjected to such operation without any physical suffering. A very interesting point was also brought forward by Dr. Richardson, having reference to the degrees of common sensibility possessed by different animals, as shown by the readiness with which their sensibility was capable of extinction on one uniform process of experiment. It was explained that no two animals possess the same degree of sensibility, and that no animal has so distinct and high a degree of sensibility as man. After man, the horse, amongst the domestic animals, is most endowed, and after the horse, the dog and the guinea pig. Rabbits have a low sensibility. Descending to animals much lower in the scale of creation—viz., to frogs and leeches—the diminution of sense power is so marked that hardly a comparison can be instituted between them and man. Professor Tuson, of the Royal Veterinary College, having been called upon by the chairman, gave striking and valuable corroborative evidence of the complete success of the local anæsthetic process in cases of firing. He had seen as many as forty lines cut in the leg of the horse with the actual cautery, without any indication of pain. He believed that in veterinary Surgery the use of the ether spray was not only a means of preventing pain, but an economy to the operator. —*Medical Times and Gazette.*

MEDICAL NEWS.

DEATH OF PROFESSOR GOODSIR.

This very eminent anatomist, who for a number of years has filled the chair of Professor of Anatomy in the University of Edinburgh, at the early age of 52 years, expired on the 10th of March, after a somewhat tedious illness. Twelve years ago his health gave way under the closeness of his application, and from that time till he expired he

never enjoyed even tolerable health. Notwithstanding this he was constant in his lectures, and a regular attendant in the dissecting room. Few who have had the pleasure of listening to his lectures will forget his tall and well-built frame, and the intent earnestness and enthusiasm with which he entered upon his subject, at times being quite oblivious to all going on around him. He was also no mean artist, as his colored diagrams on the class black-board gave ample evidence. There are numerous candidates for the vacancy, caused by his death. None can, however, be more competent to fill it than Mr. Goodsir's anatomical demonstrator, Mr. Turner.

Medical Humor.—At a late medical dinner in London, Sir Charles Locock, who has been nearest to the Queen in some of her most trying moments, was facetiously toasted as the "earliest friend" of the rising members of the Royal family. He was also congratulated on the honors he had attained, after numerous and arduous "labours," and as her Majesty was at a loss what additional title to confer, the company suggested "Lord Deliverus!"

Dr. J. Marion Sims has recently returned to his home in New York, after a residence, in Paris and London, of several years, during which time he had a remarkably successful Professional career. His extraordinary aptitude in uterine surgery has been the admiration of European surgeons, and though he carried some of his peculiar ideas a little too far, his talents have been acknowledged by all, and he returns with substantial proofs of theirappreciation.—*Medical and Surgical Reporter.*

HEALTH OF THE PRINCESS OF WALES.

Each day during the last week has been one of satisfactory progress in the condition of Her Royal Highness. Natural sleep during the night has also been fully restored. On Wednesday the Princess had a refreshing sleep of seven hours. The swelling and other inflammatory symptoms in the knee-joint have greatly subsided, and it is much less sensitive on being handled. The general health has throughout been well maintained; and there is, happily, no room for further anxiety than that which attaches to the doubt as to the possibility of restoration of the natural movements of a joint which has been so roughly invaded by an insidious, prolonged, and severe inflammation.—*British Medical Journal, April 27th.*

CANADA

MEDICAL JOURNAL.

ORIGINAL COMMUNICATIONS.

Valedictory Address to the Graduates in Medicine and Surgery McGill University. Delivered on behalf of the Medical Faculty, at the Annual Convocation held in the William Molson Hall of the University, on the 3rd May, 1867. By GEORGE W. CAMPBELL, A. M., M D., Professor of Surgery, and Dean of the Medical Faculty.

GENTLEMEN GRADUATES:

The connexion which has for so many years existed between us as teachers and students being now about to be for ever severed, it is customary on taking leave of you to address to you a few words of congratulation and advice, but I hope I may be allowed before doing so, to dwell for a short time upon a subject which, although in a measure personal to us as the Faculty of Medicine of McGill University, is not the less interesting and important to you, now commencing life for yourselves, and from your education and position in the community, about to exercise, I hope for the public weal, no inconsiderable influence upon public opinion.

You are most of you, no doubt aware, that since 1st of January, 1866, the Profession in Upper Canada has been governed by an Act, entitled "An Act to regulate the qualifications of Practitioners in Medicine and and Surgery in Upper Canada," and that under this Act a council has been established, composed partly of representatives chosen, one from each of the four Universities: one from the Toronto School of Medicine, and one from each of the twelve Electoral Divisions of Upper Canada. The body so selected, is styled the General Council of Medical Education and Registration of Upper Canada. To this Act, as at first passed, the McGill College authorities offered no opposition, it was regarded by them as a very excellent measure; liberal in its provision, and a just and sufficient protection to the properly qualified Medical Practitioner. By it, Licentiates of Medicine in Upper and Lower Canada, and persons holding medical or Surgical Degrees or Diplomas from any University in Her Ma-

jesty's dominions, were entitled to registration. Now, this very excellent Act, framed upon the present English Medical Bill, was formed not quite to suit the exclusive views of the President of the Medical Council, and an Act to amend it was endeavored to be forced through the last Session of Provincial parliament, the 2nd clause of which reads as follows:—

2. Every person claiming to be registered under the said Act, as being qualified under the third paragraph of Schedule A, thereto appended, and who had not regularly attended lectures in some medical college or school, before the 1st day of May, one thousand eight hundred and sixty-six, must pass through the matriculation examination, and complete the *curriculum* prescribed by the general Council of Medical Education and Registration of Upper Canada, hereinafter referred to as "The Council," before he shall be registered under the said Act; and he shall pass such examination at the *time* and in the *manner* directed by the Council.

It is evident that if this had become the law, even though we had agreed to conform to the Matriculation examination required by the Medical Council for Upper Canada, none of the holders of our Degrees could practice in that Province until they had submitted to a re-examination in the manner directed by the Council, and the injustice of this will be most evident, when it is remembered that British Degrees and Diplomas with qualifications, Literary and Professional, no higher than our own, are exempted from the operation of this Act. Besides this, the Medical council of Great Britain has never attempted to take the Matriculation examination out of the hands of the Universities, Colleges of Physicians and Surgeons, and other Licensing Corporations, but has merely insisted that the standard recommended by them, should be adopted as a minimum for the examination. They have no special Examiner of their own, nor do they attempt to conduct such examination under their own supervision, having perfect reliance in the honor of the universities and colleges, that these examinations will be conducted impartially and honestly.

The opposition made by our Faculty to this most unjust measure, which resulted in the adoption by the House of the present Amended Act, has brought out most strongly the President of the Medical Council of Upper Canada. In a circular addressed to the Members of the Council, after stating that, "It is to be deplored that a Lower Canada Institution, like McGill College, should oppose the Medical Council and Profession of Upper Canada, in their praiseworthy efforts to elevate the standard of Medical Education." He goes on to state, "The report of the Committee was to have been based on a compromise which was effected in the committee room between the then Members of the Upper Canada Medical

Council, and the two Professors of McGill College who were present. The third section of the 2nd paragraph of the Amended Bill as reported, formed no part, however, of any such compromise. It is so unjust, that if it had been written in *extenso* before the Committee rose, I do not think it would form part of the Act to day; and the Council will, I am convinced, at their next meeting, adopt the proper expedient to render it null and void." Now this section thus insinuated to have been clandestinely smuggled into the Bill by McGill influence, reads thus:—

The certificate of any University or incorporated Medical School in Lower Canada that any student thereof has duly passed such matriculation or preliminary examination shall be evidence thereof.

As you see it merely gives Lower Canada Colleges the privilege of examining their own students, according to the standard of Matriculation established under the Act, which is the same as that recommended in June last, by the Council of Medical Education and Registration of Great Britain, the requirements of which are as follows:—

" Compulsory, English language, including grammar and composition ; " Arithmetic, including vulgar and decimal fractions; Algebra, including " simple equations; Geometry, first two books of Euclid ; Latin transla- " tion and grammar; and of the following optional subjects : Greek, French, " German, Natural philosophy, including mechanics, hydrostatics, and " pneumatics.

" After 1869, Greek will be one of the compulsory subjects.

But the President of the Council has not yet done with the Medical Faculty of McGill, his pet measure having been thwarted as therein shewn ; in his introductory lecture delivered at the opening of the new Medical School in Kingston, in October last, we are spoken of in the following complimentary terms:—

" As the matriculation or preliminary examination must be passed before the students can enter any Medical College, it is not necessary that the examiner should know where they intend to prosecute their medical studies, so that the factious opposition which a certain College has raised to those examinations, under the plea that their students would not be fairly dealt with, has no foundation on which to rest, and I fear that the public will be uncharitable enough to suspect that their opposition was not undertaken in the interests of the students, nor in the interests of science, but merely because the Professor of that College dreaded that the regulations of the Council would have thinned their classes by diminishing the number of students and that consequently the revenue which they derive from the manufacture and sale of Degrees would be wonderfully curtailed."

"We deprecate such conduct; we deeply deplore that men actuated by such motives should have found their way into the ranks of our profession, and more so still that they should have been entrusted with professional functions, as we must naturally infer that they will be far more anxiously exercised about the quantities rather than the qualities of those they will let loose to prey on the public."

I am really ashamed to notice such an unjust and ungentlemanly attack upon this Faculty, and it is his position alone as President of the Medical Council, and not the man that is entitled to any notice or consideration in this place. It has long been the aim of this Faculty, to elevate as far as the circumstances of the country would permit, the standard of general education in its students, in proof of this I have only to refer to the following extract from an address to the Graduating class, delivered by me on a similar occasion to the present, eight years ago. I then said:—

"I would urge upon parents and guardians, who intend to educate their sons for any of the learned professions, not to be in any hurry fixing their choice before the mental powers have had time to develope themselves, and the tastes have in some degree been decidedly displayed. The employment to which the whole subsequent life is to be dedicated, which is to be its business, and should as much as possible be its pleasure, should not be decided upon, when the judgment is immature, and the higher mental capabilites are only beginning to manifest themselves. I believe that a course of education that will qualify a youth to commence with advantage the special study of any of the professions, should be followed up, at least, to the age of eighteen, the mind will then have had time to unfold itself, and its power will be readily directed with full intensity, to the special profession, the heart as well as the head being engaged in its pursuit."

"A good knowledge of classics is universally acknowledged to be an essential part of the general training necessary, before entering upon the study of Medicine; without such knowledge, the very meaning of the terms constantly employed in medical literature would be imcomprehensible to the student, but the chief importance of a classical education consists in this, that experience has proved the labor bestowed in its acquisition, to be by far the best discipline for preparing the intellect, for being advantageously employed upon any other subject. An acquaintance with the physical sciences is now considered an essential part of a preliminary Medical Education, and to the understanding the more exact among them, as Mechanics and Astronomy, a certain amount of Mathematics is necessary. Some knowledge of Zoology, Botany, Geology, and

Mineralogy, is now regarded as essential to any well informed, and liberally educated Medical Man, and Chemistry might, with great advantage, be studied as an elementary Branch. It may be thought that the range of study, now suggested, is too extensive for the generality of medical students, but for my part, if circumstances permitted, I would feel disposed to add to it, the study of Logic and Metaphysics; the exercises in composition usually combined with the instructions on those themes, are most reliable in the formation of habits of thought, as well as in the acquirements of power and facility of expression. I am convinced that a youth thus prepared, having the advantage of a large amount of applicable knowledge, will commence the study of Medicine, with the probability of much greater ultimate success than he who has not had such a thorough preliminary training."

Five and twenty years ago, this Faculty adopted its present extended curriculum of Professional Studies; impressed with the necessity of the Medical student being thoroughly grounded in both departments of his profession, it adopted the rule of an equal attendance, and an equally strict examination both in Medicine and Surgery, and the title of its degree, Doctor of Medicine and Master in Surgery, is now in accordance with this double curriculum, and examination. I have to apologise to you Gentlemen and to this Meeting for having occupied so much time in defending our faculty from the unfounded accusations which have been made against it. No Gentlemen, it is not the want of Education in the McGill Graduates that has caused this outburst of boisterous indignation on the part of the President of the Council of Medical Education, I fear the motive must be sought for in the high position which our Graduates occupy, and the success with which they have honestly and honorably carried, throughout the length and breadth of Uppper Canada, and in the jealousy of a small school, against a larger and more successful competitor; for be it remembered, that the Presidency of the Medical Council, and of the Medical School in Kingston are held by the same individual, and this is where the shoe pinches, the number of the Upper Canadian Students who, blind to the merits of Kingston and its Royal College of Physicians and Surgeons, give it the go by from year to year, to attend our Lectures, and who we hope we send back to their homes wiser and better men.

Gentlemen, it is a matter of serious import to you all, not to permit this abuse of power on the part of the Medical council, having now finished your own pupilage, such of you as now settle in Upper Canada must see to it, that the future Medical student gets fair play, and that the President of the the Medical Council is not permitted to smuggle through the Local Legislature prohibitory enactments, not for the benefit

of the Public nor of the Profession, but with the view to compel the Upper Canadian Medical Student to pursue his professional studies in that Province, thus excluding wholesome opposition both in the teaching and practice of Medicine.

And now, Gentlemen, we hope that during the years you have spent with us as your teachers, our labors have not been in vain, but that we have been able to communicate to you that knowledge which we have acquired upon the various subjects on which we lecture, we hope you have profited by these instructions, and that you will find the information thus obtained, of good service to you in your future professional career; but let me remind you that though now, Medical Practitioners, you should still be students. In no profession do men rise to eminence who have not gone through a severe course of study, it is the cultivation of the mind alone which elevates to distinction, the road to it is along the path of honest industry, the crowned Monarch no more than the humble student has discerned no other. I have seen something of medical practice in my time, and I have never yet known any one rise to eminence unless by close, constant and unremitting exertion. In the practice of medicine these qualities should hold preeminence. No man devoid of them should be allowed to prescribe for the sick, to hold as it were the strings of life in his hands; the hard-working meritorious practitioner will most assuredly rise to competence and fame, while the idle, dissipated, and ignorant, will receive their justly merited neglect and contempt. The relief of the sick poor is a duty which usually falls to the lot of those commencing their professional career, it has ever been diligently performed by the conscientious Practitioner, but it should be performed from an active principle of humanity, rather than to gain applause. The poor man bowed down by disease, has a large claim upon the sympathy of his physician; kindness, tenderness, and gentleness should ever accompany the administration of relief in such cases, and here, most assuredly, if anywhere, he may become a social reformer in the highest sense of the term, in combating degrading habits, and injurious customs. Epidemics may be prevented, or even extinguished by applying the principles of hygiene to the abatement of the evils which produce them, and promote their diffusion, such as defective ventilation, exclusion of light, neglect of cleanliness, and imperfect domestic sewerage. I might enlarge upon the duties of the physician in society at greater length, but time fails, let me only add a few words in conclusion, upon your duties to your professional brethren, and here frequently the temptation is great, under a pretence of love of humanity, and of scientific truth, to depreciate the skill and ability of a rival, or to seize upon a real mistake, and upon tha

erect your own character for superior ability. This ungenerous form of criticism, is still I fear far too common, and frequently in smaller towns and villages, where more is to be directly gained by depreciating an opponent, it embitters all the relations of life. "Do unto others as ye would they should do unto you," this only can be the foundation, alike of Medical ethics and Medical etiquette. Much, no doubt, may be obtained by suavity of demeanor, and gentlemanly training, associations, but the only true and universally safe guide, is the principle thus announced; with such a guide the Medical man will become no boasting depreciator of his brethren, no vulgar quack, no pilferer of the merits or reputation of his compeers, remembering the *cauté casté et probê* of his graduation oath, he will avoid the contact of the vulgar and the ignoble, and will shun everything that weakens spiritual power, as drunkennesss, idleness, sensuality, and pride. And now Gentlemen, farewell, go forth on your noble mission, let it be your high and honourable aim to assuage human suffering in all its various aggravations, and in imitation of your Great Master "to heal all manner of diseases," and may "the blessing of him who was ready to perish come upon you."

Lectures on the Diseases of the Eye, recently delivered before the Ophthalmic Class of the Toronto School of Medicine, and the Ophthalmic Class of the Medical Department of the University of Victoria College. By A. M. ROSEBRUGH, M.D.

LECTURE III.—CONVERGENT STRABISMUS.

STRABISMUS is that well known deformity called squint or cross-eye, when the person afflicted is unable to direct the axes of both eyes simultaneously to the same point. When one eye is directed to an object immediately in front (the cornea occupying a central position), the other eye is directed either to the right or to the left of that object, and the cornea is turned either towards the outer or the inner corner of the eye. When the cornea of one or both eyes is turned unduly towards the inner corner of the eye, it is called *Convergent Strabismus;* when towards the outer corner, *Divergent Strabismus.*

Deviations of the eye in a vertical or oblique direction are very rarely seen, and do not demand special attention.

It is a remarkable fact that, although no affection of the eyes has attracted more notice than squint, it was not until the year 1839 that Dieffenbach performed the first successful operation for its relief. Dieffenbach operated by dividing the rectus muscle,—an operation so apparently simple that it at once became very popular,—general practi-

tioners operated upon their "cross-eyed" patients, and thousands of cases were thus treated. Many of these were doubtless successful; but it was soon found that a large number of the cases of squint returned, and many that had a convergent squint before the operation had a divergent squint afterwards. The operation, therefore, in a comparatively short time, fell into disrepute, and was little heard of until very recently. This arose partly from want of proper laws to guide the operator, but more particularly from the fact that the pathology of the affection was not known.

Within the past few years, however, much attention has been given to this subject, and we have now the satisfaction of knowing that in no part of ophthalmic surgery have greater advances been made of late than in the study of the pathology of the muscles of the eye. This is due chiefly to the labours of Prof. Von Graefè, of Berlin.

Closely following the publication of Von Graefè's papers, Professor Donders, of Utrecht, gave the world his great work on the defects of the refraction of the eye, and their relation to strabismus, in which is given to us for the first time the true pathology of strabismus.

The translation of Professor Donders' treatise on "The Anomalies of Accommodation and Refraction" was published in 1864, by the New Sydenham Society, and occupies the not very moderate space of 635 pages of the 22nd volume.

In these skilful researches in physiological and pathological optics, Donders brought to bear the application of the higher mathematics, and with mathematical precision he determined the existence and treatment of myopia, hypermetropia, and astigmatism, as well as the diseases which arise from these optical defects of the eye, viz: asthenopia and strabismus. These important discoveries of Donders are completely revolutionizing the treatment of these diseases, and have contributed not a little to the elevation of ophthalmic medicine and surgery.

Professor Donders was the first to give a complete description of hypermetropia; he pointed out how very common this affection is, and demonstrated that nearly all cases of *convergent strabismus* and *asthenopia* depend upon this optical defect of the eye. Donders was also the first to demonstrate the no less important fact that *divergent strabismus* is most frequently the result of myopia.

During Professor Donders researches, he registered over two hundred and eighty cases of strabismus, and took accurate notes of every circumstance in each case that appeared to be either a cause or a consequence of the squint.

Most ophthalmic surgeons of eminence in Germany, France, England,

and the United States, following Donders' example, have worked these problems out for themselves, and with uniformly the same satisfactory result.

It having been satisfactorily demonstrated that, as a rule, hypermetropia exists in all cases of convergent strabismus, we can hence infer that the hypermetropia is the cause of the squint. In support of this view we have the following facts:—Hypermetropia is to a great extent inherited, and can be demonstrated in the infant. If the hypermetropia be corrected when the squint is incipient, the squint disappears. If then hypermetropia is the cause of the squint, the next question is, How is this brought about?

According to Donders, hypermetropia depends, as a rule, upon the shortening of the antero-posterior diameter of the eye. The cornea and lens have usually the normal degree of curvature, but the distance between the lens and the retina is too short. Parallel rays of light falling upon the normal eye are brought to a focus *on* the retina; but when parallel rays fall upon the hypermetropic eye, they are brought to a focus *behind* the retina.

Thus in Fig I., E represents a section of a hypermetropic eye; parallel rays PP falling upon E, do not meet in a focus on the retina *r*, but pass to F—a point on the dotted line R, which represents the position of the retina in the normal eye.

When the normal eye is in a state of rest, and directed to a distant object, the image of the latter is formed on the retina, without any effort of the "accommodation" of the eye. When the hypermetropic eye, however, is directed to a distant object, that object can be seen with distinctness only by an effort of the "accommodation."

Again, we know that when both eyes are directed to a near object, they are very much converged; the optic axes cross at the point to which they are directed. If one eye be covered, and the opposite eye be accommodated for its "near point" (the nearest point of distinct vision), the covered eye will be found to be very decidedly converged towards the nose—to have, in fact a temporary convergent squint. This arises from the constant association of the act of accommodating the eye for short distances with the act of contracting the internal rectus muscle. Hyper-

metropic persons, however, being obliged to exert the accommodation of their eyes even in looking at distant objects, it is easy to understand that they would be inclined to contract their internal recti muscles unduly, so as to increase their power of "accommodation." This excessive contraction of the internal recti muscles converges the eyes to a point nearer the eyes than the object under observation, and causes one of the eyes to turn in. When, therefore, they wish to see distinctly with one eye, they instictively turn in the other.

Out of one hundred and seventy-two cases of convergent strabismus examined by Donders, one hundred and thirty-three were the result of hypermetropia, thus giving seventy-seven per cent. of the cases. Donders is convinced that if all the cases of convergent strabismus that occur in a given population were examined, it would be found that a much larger percentage of the cases are caused by hypermetropia. In the first place, the cases where the convergence is but slight, do not generally apply to the ophthalmic surgeon, and yet these are precisely the cases in which the hypermetropia is the sole cause of the squint. Again, the cases of convergent strabismus that *do* come under observation or treatment, are usually exceptional ones—many of them arising from inflammation, paralysis, &c.

It having been proved by Donders that hypermetropia is a very widely diffused optical defect (he thinks even more widely diffused than myopia), and as the cases of convergent strabismus are not of very frequent occurrence, it follows that hypermetropia very frequently exists without causing squint. This arises from the great aversion which all persons have to double vision. When hypermetropic persons tax all their powers of accommodation to enable them to see an object distinctly, they instinctively contract the internal recti muscles; this causes one of the eyes to converge, and they see objects double; but as all persons have a strong, almost irresistible "clinging" to single binocular vision, they refrain from exerting the focal adjusting power of their eyes unduly, and in this way avoid double vision and convergent strabismus. This instinctive "clinging" to single vision with two eyes can be very simply demonstrated with a weak prismatic glass. If we place before one of our eyes a weak prismatic glass, with the base turned outwards, and look at an object with both eyes, the object will at first appear double; but almost immediately that eye involuntarily turns inwards, so as to cause a very decided temporary squint, for the purpose of seeing the object single. This is the circumstance then that prevents most hypermetropic persons from having convergent strabismus.

The question here naturally arises, what circumstances co-operate to produce convergent strabismus in persons who are hypermetropic? These are divided by Donders into two parts :—1st. Those which diminish the value of binocular vision; 2nd. Those which facilitate convergence of the eyes.

First Division.—Those which diminish the value of binocular vision. These are spots on the cornea, amblyopia or insensibility of the retina, astigmatism, &c. Spots on the cornea were formerly considered to be a direct cause of squint; but it has now been proven that these opacities tend to develope convergent strabismus in those cases only in which the person is also hypermetropic. The haziness of the cornea impairs the vision of that eye so that it can contribute very little towards binocular vision; and, on the other hand, when that eye converges, the impression made upon the retina is less distinct, and consequently double vision is less annoying.

Second Division.—Convergent strabismus is liable to be produced in cases of hypermetropia, if there are also circumstances that facilitate convergence of the eyes. Many persons can with ease converge the eyes simultaneously to an object brought within two inches of the root of the nose. Children are said to contract a permanent squint by imitating others who are affected with this deformity; but this can only take place if the child is hypermetropic.

Again, in hypermetropic eyes, the yellow spot of Sommering (or point of acute vision) is usually displaced outwards; this necessitates a slight deviation of the eyes outwards, that the object looked at may make an impression on the yellow spot of each eye, and preserve binocular vision.

Thus, in Fig. 2, E. represents a horizontal section of a Hypermetropic eye. The line B c D represents the axis of the cornea, and the line A c F,—the line of vision. The point where the line A c f touches the retina corresponds with the position of the *macula lutea* or yellow spot, which is represented to be considerably external to its normal position. In order that the image of A may fall upon the yellow spot, it is necessary that the axis of the cornea shall be turned towards B. This gives the

eye an apparent degree of divergence which is measured by the angle B c A.*

Such persons can maintain binocular vision with great difficulty, as the necessary divergence is not very easily effected. In the experiment with the prism just referred to, the base is turned outwards, and applied to one of the eyes—both being open; in that case we at first see double, but almost immediately we involuntarily turn the eye towards the nose, so as to obtain binocular vision. If the reverse experiment be tried, turning the base of the prism towards the nose, it will be found that very few persons can diverge the eyes sufficiently to enable them to see single, all objects will consequently appear double. This displacement of the yellow spot outwards would tend to produce convergent strabismus in normal eyes; but much more so in the eyes that are hypermetropic.

Convergent strabismus from hypermetropia usually shows itself about the fifth year; probably because the child commences about that age to use the eyes more particularly upon minute and near objects.

Convulsions, difficult dentition, worms, blows on the eye, irritation, &c., &c., are among the causes most commonly assigned as the origin of squint by the older authorities on eye diseases. McKenzie, in his treatise on the diseases of the eye, gives a long list of circumstances that he regards as causes of squint, such as fits of passion, fright, children looking at the point of their noses, &c., &c. Dr. Haynes Walton, however, in the second edition of his treatise on the surgical diseases of the eye (1861) candidly admits that "in the majority of cases the squint really cannot be accounted for, as it occurs in the healthiest of children."

In a case of convergent strabismus that is now under my observation, the squint was attributed by the parents to whooping-cough; upon examination, however, I found that the eyes were hypermetropic to the extent one-twelfth, and that there was partial insensibility of the retina of the deviated eye. The little patient is about seven years of age, and the squint had first shown itself about two years ago.

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*By means of an instrument called the *Ophthalmometer*, it has been discovered recently that, even in the normal eye, the axis of the cornea and the axis or line of vision do not correspond; they are very nearly on the same horizontal plane but the axis of vision cuts the cornea between the centre and the nasal side. The amount of this deviation in the normal eye (the value of the angle B c A) was found by Donders to be from 3° to 7°, and in the hypermetropic eye he found the dimergence to amount to from 0° to 9°. A dimergence of 9° in each eye would amount to 18° for the two eyes; such an amount of divergence would give the person a very decided *apparent* strabismus.

Convergent strabismus, at first, is usually periodic—that is, it shows itself occasionally only; this takes place when the eyes are fixed critically upon a minute object requiring accurate focal adjustment to see it distinctly. If the hypermetropia be relieved when the convergence first makes its appearance, the development of the squint will be prevented. If, however, this precaution be not taken, the squint will finally become habitual.

When the strabismus has become habitual, it is found that both internal recti muscles are somewhat shortened. Both muscles become shortened from the habit which these persons acquire of bringing the object under examination to the side of the affected eye, so that the internal rectus of the eye less affected is kept more or less contracted. Upon examing with the microscope the external and internal recti muscles of a person with strabismus from hypermetropia, no change in structure can be detected.

LONDON CORRESPONDENCE.

The cry is, they come, they come! Who comes? Why the countless multitudes whose tegumentary coverings are in a state of affliction. "My dear," says Mrs. Gamp to her husband, "how alarmingly frequent must be those horrid epidemics of diseases of the skin, for they are building hospitals everywhere to receive the poor sufferers." Mrs Gamp is not the only one who forms such an opinion, for the advertisements in the public journals would lead the public to suppose that London is the great centre where all the cutaneous maladies of Europe assembled to be treated. Formerly London was satisfied with the single hospital for skin disease in New Bridge Street, Blackfriars. At Guy's and University College Hospitals, special departments have been established for many years, in connection with the skin, and every visitor to the Museum of Guy's must remember the magnificent series of models in wax, illustrating every known cutaneous malady under the sun. Within the last few years, owing to the rage for specialism, these were not considered enough, and St. John's Hospital for skin diseases was established in Westminster by Mr. Milton, which has lately been removed to Leicester Square. Mr. Hunt's Dispensary for skin diseases in Duke Street, Manchester Square, has been known for some time, and Mr. Hunt himself is a skilful dematologist. Another Dispensary exists in Marlborough Street, and still another has just been established in Farringdon Street, under the management of Dr. Ross. A national Institution for diseases of the skin

flourishes in Mitre Street, Aldgate; and a City Hospital for the same class of diseases, has been founded in the City Road. There may be probably several others. Simultaneously with the origin of these various institutions, appear works on cutaneous pathology, many of the authors, no doubt having acquired their experience beforehand theoretically. It were a farce to adopt a specialism without being associated with a special institution, and as all the dermatologists cannot be admitted into St. John's or some other Hospital as medical officers, they institute dispensaries for their own benefit, Ah! I mean of course for the benefit of the suffering poor. The resident out of London can now understand why "King Skin" is reigning just now. Waiting, upon the principle of German Unity, the various skin divisional kingdoms are now centred in the metropolis. A special journal has been started exclusively devoted to skin diseases, supported by a chosen band of workers. The titles of the various works on the skin are curious in their way; besides some good manuals and treatises, we have Barr Meadows on "Eruptions, their real nature," and another work on "Obstinate affections of the Skin," implying that in the former the nature of skin disease has not been heretofore understood, and in the latter obstinacy only has to be overcome to effect a cure.

The skin is an example of other parts of the body being chosen by the few or many to work upon and make a living, but it is a grand mistake to suppose that the same specialty will support a large number of followers. The public are fond of novelty, and those who suffer from chronic maladies, will consult every new name that appears in the advertising colums of the *Times*. It is rumoured that a dispensary is about to be formed for "*diseases of the spleen*," that organ having experienced an amount of neglect that is unmerited. In fact the spleen has had the uppermost lately in the discussion before a well known society which expelled one of its fellows. Some of the speakers were splenetic.

Apropos of that, opinion is divided upon the propriety of such a step, but the subject is an unpleasant one at best, and the least said about it the better.

The College of Pysicians have just elected Dr. Alderson, Physician to St. Mary's Hospital, for their new President, Sir Thomas Watson having intimated his desire not to be re-elected. Dr. Alderson is one of the oldest fellows of the college and is highly respected. In the last list of licenciates of the college are the names of graduates of several of the Canadian Colleges. This looks well.

The profession in Canada may feel interested to know that the chair of anatomy in the University of Edinburgh, vacant by the death of Goodsir

has been filled by the election of Dr. William Turner, who had six out of seven votes. He is a gentleman, well known for his scientific attainments, and is highly popular among the students. He possesses the happy disposition of making everybody his friend. When the British Association for the advancement of science met at Birmingham in 1865, Professor Turner, Professor R. P. Howard of Montreal, Dr. Gibb of London, and Mr. Alfred Wallace the well known traveller, resided together during the meeting. The writer has heard Professor Turner remark, that he found that most of the Medical Students from Canada, in Edinburgh, possessed a degree in arts, showing the liberal education they had attained before coming to Europe.

The meeting of the British Association will be held this year at Dundee, and as it is our intention to be present, your readers may reckon upon a letter from that bonny place. What with the Dundee meeting in September, the meeting of the British medical Association at Dublin in August, and the Paris Exhibition now open, one will be fully occupied. It will be difficult for many to attend all three.

William Lawrence, the Doyen of the surgical faculty in London, has been made a baronet. Considering his age, and retirement from active practice, it has astonished many persons, more particularly because he refused the honour some thirty years ago. We should not be surprised to see many more similar creations during the next few years, as so many medical men, are attached to the court. At this moment we have the names of Watson, Locock, Holland, Ferguson and Lawrence in London alone.

Various rumours are current regarding the condition of the Princess of Wales, whose malady is spoken of as strumous disease of the knee joint, the result of an injury at Sandringham, before her confinement.

London, April 16th, 1867.

REVIEWS AND NOTICES OF BOOKS.

On the Action of Medicines in the System. By FREDRICK WILLIAM HEADLAND, M.D., B.A., F.L.S., Fellow of the Royal College of Physicians, &c., &c. Fifth American, from the fourth London Edition, Revised and Enlarged, 8vo., p.p. 431. Philadelphia: Lindsay & Blakiston. 1867.

This work was the prize essay for the Fothergillian gold medal awarded by the Medical Society of London in 1852, and is, as its title im-

plies, an American reprint of the fourth London edition, which was issued from the English press, late during the past year. Considerable and valuable additions have been embodied without enlarging the work to an inconvenient size. The labours and researches of therapeutists of all nations during the past seven years, those at least of material importance, have been noted.

The work consists of four chapters, the first of which is devoted to introductory remarks. In the second chapter are considered, some of the more important classifications of medicines together with the opinion of authors respecting their action.

In chapter third we find the general mode of action of therapeutic agents, introduced into the stomach, treated of in ten propositions; and in the fourth chapter is considered the action of some of the more important medicines.

The views set forth on the action of medicine are at once scientific and demonstrative, there will be found no idle speculation. What is advanced is so on grounds which are incontrovertible. The experiments and inferences are clear and satisfactory. In speaking of strychnine the author observes;

" Strychnia is thus an exciter of muscular contraction and of motion; exalting sensation in a less degree. That it operates by an action on nerve, and not on muscle directly, has been proved by the experiments of Matteucci. It has also apparently some action on a part of the ganglionic system of nerves, by which it is enabled to promote the function of the stomach, and becomes temporarily a tonic when given in relaxed conditions of that organ. But it does not excite the action of the heart.

" In cases of poisoning by Nux Vomica, the brain and the heart are unaffected. Tetanic and general convulsions are produced; and the immediate cause of death is a spasm of the muscles of respiration.

" Dr. Taylor has very clearly laid down the distinctions between the kind of Tetanus which is produced by Strychnia, and that which is the result of disease. The symptoms are sudden and violent, nearly all the voluntary muscles are affected simultaneously. Opisthotonos occurs early. The symptoms go on to death, or the man recovers completely. They seldom last for more than two hours. Idiopathic Tetanus, on the other hand, is gradual, commencing with spasm of the jaw; opisthotonos comes on later; the affection may last for days, or even weeks. (*Guy's Hospital Reports*, vol ii., 1856.)

" In treating of this subject, some confusion has arisen from the use of the word *intermission*. There is in neither case a positive intermis

sion or cessation of symptoms, though in both they may be paroxysmal. The apparent intermission in poisoning-cases is caused simply by the effects of one dose having gone off, and fresh symptoms being subsequently produced by another dose.

" It has been supposed that the poisonous alkaloid may become destroyed while in the blood (Taylor). I do not think we have any sufficient ground for assuming this. I think Mr. Horsley has shown that the Strychnia may sometimes escape detection in cases of poisoning by reason of its power of entering into a firm combination with Albumen, from which it cannot even be separated by an acid menstruum. Strychnine is also rapidly eliminated in the secretion of urine, and as it thus passes out of the system, its action goes off and disappears. As opposed to the theory of the decomposition of Strychnia in the system, it may be mentioned that the flesh of animals poisoned by Strychnia is poisonous."

This opinion of Dr. Taylor has been called in questions by other chemists of equal standing as himself, and we may regard the assertion that Strychnine may become destroyed while in the blood as unfounded and unproven. Dr. Taylor failed to prove the presence of strychnine in the body of Cooke, poisoned by Palmer, but we do believe, and we did at the time believe that his premises of reasoning were from insufficient data. We would call the attention of our readers to the recent case of poisoning by strychnine, which formed the subject of judicial inquiry, the particulars of which we publish in this number of the journal. The crown secured the service of Dr. Girdwood of this city who most perfectly and conclusively demonstrated the presence of strychnine in the body of deceased, indeed in another case which has been submitted to a jury for their decision, Dr. Girdwood demonstrated unmistakably by the colour test the presence of strychnine not only in the stomach and its contents, but in the muscles of the thigh, and also in the thigh bone, we were ourselves present during part of the chemical investigations in this case and were convinced of their correctness. So that the theory of Taylor that strychnine becomes destroyed in the blood falls to the ground. This asertion was advanced by him at the Palmer trial, and was objected to at the time by Drs. Rodgers and Girdwood, Dr. Leatheby, Mr. Nunnelly and others, (see *London Lancet*, vol. i, 1856.). Dr. Taylor seems to have arrived at his conclusion simply from the fact that his process of chemical investigation was defective, and hence he started a theory unfounded on fact; the only fact being his inability to discover the presence of the poison which in other hands would have been undoubtedly demonstrated. The work before us is replete with interest, written by a master hand in that pure yet simple style of the lover of scientific

research seeking after truth, we commend it to our readers as a book to be read and studied, and whose teachings will be with advantage taken to the bed side to aid us in carrying out that privilege given to us from on high to relieve the afflicted and succour the distressed.

PERISCOPIC DEPARTMENT.

Physiology.

THE ACTION OF ARSENIOUS ACID ON THE ANIMAL ORGANISM.

By Cunze, of Helmstadt.

The eating of arsenic in Salzburg and Steiermark, so often mentioned and denied, has recently, by numerous credible observers, been proved. Its beneficial action on animals, and above all on horses, has already long ago, attracted the attention of medical men; but no one could give a satisfactory solution of the question as to the manner in which it acted.

Mr. Cunze, who has made his observations under the direction of Prof. G. Musenier, in the Physiological Institute at Gottingen, says that arsenic is not used in that part of the country as an article of enjoyment as tobacco, nor as a medicine; but according to the statements of persons who use it, as an agent enabling them to endure fatigue and labor, though the amount of food taken is not increased. According to Cunze, when arsenic is taken, the materials for the transformation of the tissues are sparingly used, and the endurance of the body augmented.

The observations of Kopp, who, without change of food or mode of living, increased twenty pounds in weight in two months, while working in an atmosphere containing arsenic; but being removed came back to his original weight in two weeks. As, also, the observations made on horses, make it probable that by taking arsenic without increase of bodily labor, the weight of the body will be increased.

According to Roussin (Journal de Pharm. et Chirurgie, T. 43) two kittens, whose mother was fed with arseniate of lime, and afterwards they themselves with the same substance, got immensely fat, but became very quickly poor when the arsenic was taken from them. Schmidt and Hurzwage observed in birds and cats fed on arsenic, a decrease of the carbonic acid in the breath, and in the last named animals a decrease in the urea. According to Schmidt no decrease in the weight of a cat was per-

ceived, which was fed for several days on arsenic, though no other food was taken. When the arsenic was stopped it lost weight rapidly. It seems therefore that a saving of the material used in the transformation of tissue occurs, by checking the process of oxydation. This checking process can only occur at the expense of another function, namely, absorption. To prove his opinion, Mr. Cunze made daily subcutaneous injections on a rabbit, containing arseniate of soda, increasing it from two to eleven m'gram, and observed the change of temperature. The normal temperature of the ear, which in the first four days was between 30° 4 R. and 31° R., came down finally to 29° R. The experiment was then stopped; an eruption on the skin and diarrhœa supervening.

Arseniate of soda was given in the food of another rabbit. The dose was increased from one m'gram to four in eleven days; no arsenic was then given for a few days, and finally the dose of arsenic was increased to fifteen m'gram. These large doses brought on diarrhœa. During the time the animal brought forth young. The temperature of the ear varied before arsenic was given, between 31° and 31°.8, average 31°.4 R. In the first period of gestation no visible decrease of temperature was observed, but after gestation, showed very plainly. The temperature went down in a few days, during which time four m'gram were given, to 29.6 R. (formerly the average was 31.) and remained constantly, with the exception of one day, 30° or below 30°. One day after the arsenic was discontinued, the temperature went up to 31° 5′, and remained so the next day, when no arsenic was given. The two following days, eight to nine m'grams of arsenic were given in the morning, and on the first day the temperature fell to 28° 2′; on the second day to 28°; during two subsequent days it remained between 27° 4′ and 27° 3′, increased then to 29° 3′, but came down again, when arsenic was repeated, to 27° 4 and 27° 3′. The researches made in regard to weight did not give distinct results. The observations of the author, made on the hearts of animals treated with arsenic, are very interesting. In several cases in which the poison was brought directly into the vascular system, a remarkably long continuation of the contractions of the right side of the heart showed itself after death.

He observed, after injecting ten m'gram of arsenious acid in the jugular vein of a rabbit, and killing it a few minutes afterwards, a continuation of the pulsations of the right ventricle and auricle thirty times in a minute, in the beginning; changing afterwards, the auricle pulsating at 80, the ventricle only forty. Two hours after death the movements of the right ventricle ceased, the auricle still making eighty pulsations. The auricle continued to pulsate twenty hours after death—in this propor-

tion: after three hours, sixty-seven times; after six hours, twenty-seven; nine and a half hours, twenty-five; eleven and a half hours, eighteen. After twenty-two hours, the pulsation ceased entirely. Other experiments, made in a similar way, gave the same result, namely, a continuation of the pulsations of the right auricle principally, after life had ceased. Comparative experiments made with rabits which were not poisoned, never gave a similar result.

The quantity of arsenic which reaches the heart is, according to the author, of great importance in regard to the continuation of the pulsations. After injecting ten m'gram of arsenic, the longest duration of pulsation was twenty-five to twenty-six hours. After injecting five m'gram, only six hours. The author injected into the right and left auricle of a goat's heart, which had just been removed from the body, and was pulsating slowly, arseniate of soda; immediately after, the movements of the right auricle were augmented, and it continued to pulsate for one and a quarter hours. The reason why the movements took place in the right side of the heart only, the author thinks is, that in most of his experiments the arsenious acid had not sufficient time to permeate the left ventricle, which he always found empty of blood. He agrees with C. Schmidt in regard to the action of arsenious acid, that it checks the process of oxydation of the tissues. That it prevents decomposition is well known; the writer saw freshly drawn blood of rabbits, which he had mixed with an equal measure of a solution of arsenic, one-half per cent strength, so slowly coagulate, that only after ten hours did he find a dense coagulum. The blood corpuscles were almost unaltered in shape, being only a little shriveled. In another portion of blood, mixed with an equal measure of water, the red corpuscles were entirely dissolved. The bottom of the clot with the arsenious acid was exposed to the air, and it, after twenty-four hours' exposure, acquired a bright red color; the blood globules in the clot retain the normal form and size. Schmidt and Bretschneider noticed a remarkable power of preserving frog's blood. It has the same effect on muscular and nervous tissue; these tissues retain their irritability longer after death, when imbued with the arsenious solution, than when nothing is injected into them. Concerning the therapeutical action of arsenic, he says that the different observations which have been already made, justify the conclusion that it depends on the retardation of the oxygenation of the blood; or, perhaps, that the polarisation of the oxygen is prevented by arsenic, or that certain organic substances form a stronger combination with the arsenic, so that they are not easily oxydized.

On the Separation of Strychnine Salts by Carbolic Acid.—When a weak solution of hydrochlorate of strychnine is shaken with some drops of carbolic acid, the liquid assumes the appearance of an emulsion. It has then little activity when administered by the hypodermic method, but this relative innocuousness is due to a simple sluggishness of absorption, and not to a destruction of the strychnine by carbolic acid—for, on removing this with ether, a limpid solution is obtained as energetic as at first. If the emulsion is carefully filtered, and the filtrate treated with ether, it has no longer any toxic property; on the contrary, that which remains on the filter, being diffused in water and freed by means of ether from the carbolic acid which it contains, forms again the strychnine salts at first taken. Carbolic acid has the effect, therefore, of holding in suspension the strychnine salt, and singularly facilitating its separation. The author has found strychnine can be easily separated in this way from putrescent animal matter.—*M. Paul Bert, in Medical Gazette.*

A New Substitute for Chloroform.—The subject of anæsthesia is yet in its infancy, and we may therefore be prepared to chronicle further discovery. Dr. Protheroe Smith has made some experiments with tetrachloride of carbon ($c\ cl_4$) the inhalation of which he finds produces anæsthesia in a very short time, while the effect passes off equally rapidly. It is further stated that it does not produce some of the unpleasant symptoms that not unfrequently attend the administration of chloroform. Dr. Protheroe Smith has given it in several cases, and we sincerely hope the favourable opinion formed of it may be confirmed by further trial. We can well afford to add to our means of subduing pain and producing sleeep.—*Medical Press and Circular.*

Cholera Yeast.—The investigations of Herr Klob and Herr Thomé, originally detailed in Virchow's *Archive*, point to the development of an enormous quantity of a vegetable growth in the intestinal canal of cholera patients. At a recent meeting of the Pathological Society of London, Mr Simon exhibited a specimen of the plant which had been given to him by Herr Thomé during his recent visit to the Continent, to attend the Cholera Conference just held at Weimar. Mr. Hulke and Dr. Sanderson were appointed to report on the subject, and we may, therefore, look with confidence for early and reliable information.—*Medical Press and Circular.*

Canada Medical Journal.

MONTREAL, MAY, 1867.

MONTREAL GENERAL HOSPITAL.

We believe it is contemplated by the governors of the Montreal General Hospital to extend the benefits of that charity, by erecting an additional building, for fever cases. This is an enterprise at once benevolent and commendable, and we feel certain that it will be well sustained by our fellow townsmen; indeed we have to record the noble donation of $5000, from William Molson, Esq., specially for this purpose. But while we are fully alive to the necessity of an institution with the above object, we must be permitted to call in question the propriety of building a Fever Hospital, on the ground at present owned by this institution. What we should like to see is a large hospital built, with sufficient space around to preclude the possibility of its being encroached upon by other buildings—all will allow that the present Hospital is not in point of situation, in the right place; the growth of the city has been so rapid, and enterprise has developed to a certain degree our water privileges, the line of the canal, is beginning to present all that life which tells of man's industry and perseverance, the busy hum and smoke of the factory bears evidence of wealth fast accumulating; and it behoves those who have large interests in those establishments, to give of their substance, to provide a home for their operatives during sickness from disease or accident. What should be done, and what could be very easily done, is to secure a site some little distance from the city, but, which would be in reality nearer to the houses of the poor, who at the present day form the large bulk of patients attending the Montreal General Hospital, and on this site a surgical hospital, and a fever hospital, built on modern principles should be erected. This is no chimera. It only requires a little concerted action to render it a *fait accompli*. We feel certain that it is alone necessary to place the scheme fairly and in the right light before the people of Montreal, to yield a noble response; the present Hospital is totally unfit for what it was originally intended. The space is cramped, it is surrounded by buildings, and it is at an inconvenient distance from the factories and Grand Trunk works. Cases of accident are continually

occurring, and the unfortunate sufferer is obliged to be carried on a stretcher for miles to obtain that surgical aid which might be, under other circumstances, near at hand. But the most powerful argument against continuing the present building, is its total unfitness for the object intended. It is a Hospital certainly, and in the absence of a better, answers the purpose; but we fear that if the governors decide on further crowding the present limited space with additional buildings, that much evil will be done, and the present building injured very materially in a sanatory point.

If we take the experience of some of the London hospitals, we find that in many, if not in all, the entire internal arrangments have been remodled. An improved system of drainage has been rigidly carried out, large and airy refectories provided, ample ward room, and healthful water closets, and baths attached; these are necessaries which in modern hospitals are always met with, and as a consequence a corresponding decrease in mortality. In providing these charities the object is not so much to give to the poor man a place where he can have his bed, board, and medical relief during an attack of illness, but that he shall be placed under those conditions, wherein he will be most likely to recover his health and strength. To a man recovering from an attack of illness, how grateful is his release from his sick chamber. While confined to bed he is obliged to eat, drink, sleep, and attend to the calls of nature in a limited space, but when convalescent it is far from encouraging to be still obliged to follow the same routine day after day, and all in a limited space. His food is brought to him, and he partakes of his meal without satisfaction or relish while he is in his ward; to live, sleep and eat, surrounded by disease and death, is a condition which is far from benificial and unlikely to be speedily followed by that rapid convalescence which would undoubtedly follow, were he otherwise situated. The hospital property at present is large enough to enable the governors to put up three rows or terraces of dwelling houses which would readily rent from their close proximity to the city, and which would yield an income which would go far to render the institution, if built in another and more suitable place, independent of the continued and yearly solicitation for aid at the hands of the charitably disposed. There is material enough in the present building if pulled down to effect this change.

These are a few suggestions which we offer, and which we think should be well and carefully considered our only object and earnest desire is to see the Montreal General Hospital, continue a flourishing institution, of use to the community and a lasting monument of the charity, benevolence, and good judgment of its managers.

McGILL UNIVERSITY, MONTREAL.

Faculty of Medicine.

M.D.C.M. Holmes Gold Medal Examination—Session 1866 & 1867.

This prize, which is the highest honour conferred by the Faculty of Medicine, is awarded on special written examination, extending over two days. It is alone open to the graduating class. The successful candidate this year was Mr. Clinton Wayne Kelly, U. S. Mr. Kelly also carried off the prize for the best examination in the final branches. His thesis on the subject of Uterine Hæmorrhage reached high, nearly the whole number of marks being awarded.

Note.—This Medal, founded by the Medical Faculty, is open for competition to those members of the graduating class who have undergone successfully their final examinations, and whose inaugural theses are deemed respectively worthy of 100 marks or more, the maximum number of marks for any thesis being 200. Complete answers to all the questions are equal to 400 marks (50 for each branch) making the total number obtainable 600.

SURGERY.

Examiner.....Professor Campbell, A.M., M.D.

1. Describe the symptoms of calculus vesicæ and the principal operations for its relief.

2. Give the symptoms, causes and treatment of external aneurism.

CLINICAL SURGERY.

Examiner..... ...G. E. Fenwick, M.D.

What portions of the vertebræ are most liable to injury from indirect violence? Describe the lesions of the cord or its envelopes most usually met with on post mortem examination in these cases.

MIDWIFERY, &c.

Examiner.....Professor Hall, M.D.

1. What are the physical differences between the corpus luteum of menstruation, and that of pregnancy?

2. After the delivery of the fœtus in sacro iliac presentations, is the placenta usually found attached or detached from the uterine wall? What reason can you advance why the latter should be the more common condition, and is *post partum* hæmorrhage likely to supervene under these conditions?

3. What is the earliest symptom indicative of inflammation of the womb after labour? How would you distinguish between a threatened attack of this disease, and hysteralgia or after pains? And what treatment would you adopt in either case if presented?

PRACTICE OF MEDICINE.

Examiner.....Professor Howard, M.D., L.R.C.S.E.

1. Point out the leading features of the following diseases of childhood:—inherited syphilis, rickets and scrofulosis.

2. What are the pathological conditions productive of "non-inflammatory softening" of the brain, and what the circumstances that would strongly indicate the existence of that disease during life?

3. Mention some of the more important arguments illustrative of the mode in which cholera poison is reproduced and propagated, and enumerate briefly the "localizing causes" and personal conditions which favour its effective operation.

CLINICAL MEDICINE AND MEDICAL JURISPRUDENCE.

Examiner.....PROFESSOR MACCALLUM, M.D., M.R.C.S.L.

1. Describe separately a case of squamous and vesicular skin disease, and mention the points of distinction between the two forms.

2. Give the symptoms, causes and modes of termination of general mania.

3. Mention the symptoms indicating that wound of the lung has taken place, and describe fully the various consequences that may result therefrom.

INSTITUTES OF MEDICINE.

Examiner.....PROFESSOR FRASER, M.D.

1. Describe the functions of the sympathetic nerve.

2. What are the purposes served by the fibrine of the blood, and the diseases caused by its being deficient, excessive or perverted, that is, cacoplastic or aplastic?

3. Give the most reliable tests for albumen, sugar and bile in the urine, and explain the pathological causes of these abnormities.

ANATOMY.

Examiner.....PROFESSOR SCOTT, M.D.

1. Enumerate all the muscles of both the superior and inferior extremity; also, the arteries distributed to each, with their relations and branches.

2. Describe the anatomy of the perineum in the male, stating what parts must be divided in the operation of lithotomy, and what avoided.

3. Give the relations of the arch of the aorta, and state the situation of both the superficial and deep cardiac plexuses, and the nerves entering into the formation of each.

MATERIA MEDICA.

Examiner.....PROFESSOR WRIGHT, M.D., L.R.C.S.E.

1. Give the way of preparing K I according to the British Pharmacopœa, and explain the various steps of the process.

2. Describe the actions of tartar emetic in the various doses in which it may be prescribed, and in overdoses.

3. Mention the uses of ipecacuanha, explain its modus operandi in dysentry, hemorrhages, asthma, &c., and name the combinations in which it might be taken, with their doses.

CHEMISTRY.

Examiner.....PROFESSOR CRAIK, M.D.

1. Describe the properties of hydrogen, the methods of preparing it, and state the reasons for regarding it as a metal.

2. Describe the different varieties of phosphoric acid, their modes of preparation, and the tests for each.

3. Describe urea and some of its derivatives.

ANNUAL CONVOCATION OF McGILL UNIVERSITY.

The annual convocation of this university was held in the William Molson Hall on Thursday the second and Friday the third of May. On the second day degrees in the Medical and Law Faculties were conferred. G. W. Campbell, A. M. M.D., the Dean of the Medical Faculty, announced that the number of students who had matriculated and attended during the past session was 184. Of these there were from Lower Canada

eighty-three, from Upper Canada eighty-nine, Nova Scotia three, New Brunswick two, Prince Edward's Island one, Newfoundland one, United States four.

The following gentlemen had passed their primary examination on Anatomy, Chemistry, Materia, Medica, Institutes of Medicine, and Botany and Zoology.

Reginald A. D. King, St. Sylvestre; Angus A. Gilmour, Granby, C. E.; Daniel Legault, Isle Parrault, C. E.; Edwin D. Ault, Aultsville, C. W.; Daniel M. J. Hagarty, Bornholm, C. W.; Daniel D. Smith, Cornwall, C. W.; James McNeece, Quebec; Guy D. Daly, Minnesota, U.S.; James J. Quarry, Lucan, C. W.; Marshall B. Wilcox, Whitby, C. W.; Silas Kneal, Woodstock, C. W; Tancred de Grosbois, Chambly, C E.; Daniel A. O'Connor, Montreal; Thomas G. Roddick, Harbour Grace, N. F; George Stanton, Simcoe, C. W.; John E. W. Holwell, Quebec; Walter Moffat, Hickory, U.S.; Wm. McGeachy, Fingal, C. W.; Wm. Henry Patterson, Almonte, C. W.; William D. C. Law, Newtown, Robinson, C. W.; Donald Fraser, Quebec; Clarence J. H. Chipman, Montreal; Chas. W. Padfield, Burford, C. W.; John Perrier, Halifax, N. S.; Fred. W. Harding, Windsor, N. S.; Alfred O. Stimpson, St. Pie, C. E.; Algernon Wolverton, Grimsby, C. W.; Loran L. Palmer, do; John H. Wye, Brantford, C. W.; Wm. G. Bryson, Lindsay, C. W.; John W. Clemesha, Port Hope; C. W.; Donald Baynes, Montreal.

The following are the names of students presented for the degree of M.D., C. M., their residences, and the subjects of their thesis :—

Donald McDarmid, Cornwall, C. W. Pythogenic Fever; Richard S. Markell, Osnabruck, C. W., Modes of Death; Arch. McLean, Sarnia, C W., Reflex Paralysis; John Gillies, Morrison, C. W., Typhoid Fever : John R. Wanless, Montreal, Diabetes Mellitus; Edw. K. Patton, Quebec, Gonorrhœa; Peter A. McIntyre, Prince Edward Island, Dysentery; Henry W. McGowan, Kingsey, C. E. Cancer of the Stomach; William McCarthy, Henryville, C. E., Typhoid Fever; Jas. Howard, St. Andrews, C. E., Idiopathic Erysipelas; Wm. H. Fraser, Perth, C. W., the Human Heart; Robert D. McArthur, Martintown, C. W., Plural Births; John Madill, West Essa, C. W., Enteritis; Wm. Grant, Williamstown, Embolism; J. C. Roberts, B.A., Fredericton, N. B. Heat; Wm. G. Bryson, Lindsay, C. W., Pneumonia; John Wordsworth, Clemesha, Hort Hope, C. W., Fractures; Richard King, Peterborough, Signs of Pregnancy; W. Dougan, St. Catherines, C. W., Air, Exercise, and Light; James W. Oliver, St. Catherines, C. W., Peritonitis; William McGeachy, Fingal, C. W., Old and New Practice of Medicine; John Brandon, Warwick, C. W., Relations of Pulmonary and Cardiac Diseases; William B. Mallock, Ottawa, C. W., Concussion and Compression of the Brain; Loran L. Palmer, Grimsby, C. W., on Fœtal Auscultation; Algernon Wolverton, B. A., Grimsby, C. W., Dysentery; Clinton Wayne Kelly, Louisville, Ky., U. S., Hemorrhage of Pregnancy; Lafontaine B. Powers, Port Hope, C. W., Origin of Infantile Sphilis; Clarence H. Pegg, Utica, N. Y. U. S., Hospital Gangrene; Francis Howland, Sylvan, C. W. Phthisis; John Vicat, Montreal, Acute Pneumonia; Pierre E. Paradis, St. Denis, C. E., Abortion; Calixte Ethier, St. Joseph, Erysipelas; Dan O'Connor, Montreal, Dysentery; Henry Harkin, Montreal, Casts of Tubuli Uriniferi · J. C. Johnston, Asst. Surgeon, R. A., Montreal, Cholera.

William Gardner, Beauharnois, C. E., Valvular Heart Disease; Patrick Robertson, St. Andrews, C. E., Scarlet Fever; David M. Cassidy, Montreal, who were under age, but passed their examinations last Session, had their degrees conferred at this meeting of convocation.

The following gentlemen passed their Examination, but are not of age. Their degrees will be conferred at the next meeting of Convocation:—Charles O'Reilly, Hamilton, Chloroform; Clarence R. Church, Merrickville, C. W., Progressive Locomotor Ataxi; Geo. Dickenson, Ottawa, C. W. Light.

The Medical Faculty prizes consist;—First of the Holmes Gold Medal founded by the Faculty in honour of their late Dean; and two prizes in Books for the best Primary, and best Final Examination.

The Holmes Medal was awarded to Clinton Wayne Kelly, of Kentucky. The competition was very close between this gentleman and Wm. McGeachy, of Fingal, C.W.

The prize for the best examination in the Final branches was awarded, to Clinton Wayne Kelly. and in the Primary branches to William Henry Patterson, of Almonte, C.W., very closely pressed by Thos. G. Roddick, of Newfoundland. The gentlemen whose theses and examination were considered sufficiently mertorious to entitle them to compete for the medal were Messrs. Kelly, McGeachy, Pegg, Dickenson, Gillies, Malloch, Wolverton, MacLean, McCarthy, Clemesha, Paradis, Palmer, Church, McArthur, Fraser, Powers and McDiarmid.

The prizes in Natural History were awarded as follows;

Botany.—J. H. Matheson, 1st prize; L. Knoal, 2nd prize. *Zoology*—D. McCrimmon, prize.

Practical Anatomy.—Demonstrator's Prizes—Senior Class:—For general excellence as a practical Anatomist, to Wm. Moffat.

Students of the second and third years' course who deserve honourable mention as good practical Anatomists;—T. D. Lucas, John Reid, O. H. E. Clarke, and Clarence Chipman.

Junior Class:—Prize divided between Josiah Corliss and Wm. Sutherland.

Student of the first year who gave satisfaction for diligence and attention:—W. H. Robinson.

The graduates in Medicine were then called up, and the oath having been adminstered by Prof. Wright, the Degrees of M.D., C. M., were conferred by Principal Dawson.

The valedictory on behalf of the Graduates in Midicine was delivered by Dr. Powers, after which they were addressed by Professor Campbell, the Dean of the Medical Faculty, which closed the proceedings of this faculty.

The Medical evidence and an abstract of the general evidence adduced on the trial of Modeste Vilbrun alias Provencher, for the alleged wilful murder, by poison, of François Xavier Joutras. At the criminal term, held at Sorel C.E., in March 1867, *before the Honorable Mr. Justice Loranger.*

We are indebted to Mr. James G. Johnson of Montreal, for the following translation of the Judges notes taken at the above trial. It is a case of great importance, involving as it does a question of high scientific interest to the profession. The presence of strychnine was satisfactorily demonstrated by the colour test, the process employed was one differing somewhat from those laid down by medico-legal authorities as the rule in seeking for the evidence of strychnine, and was first published by Messrs. Rodgers and Girdwood as early as 1856. See London Lancet.

EVIDENCE FOR THE CROWN.

Doctor Edmond Gilbert Provost—Deputy Coroner, states :—I held an inquest, by order of the Coroner of this district, upon the body of a man called François Xavier Joutras, on the 2nd day of January 1867. I went to the inquest in company with Dr. Ladouceur of St. Zephirin. I went to the house of deceased which was about a league from St. Zephirin ; I there found a corpse in a room on a bench. The people present (about 100) told me it was Joutras' body ; it was about 8 o'clock in the evening. The corpse indicated recent death ; I swore in a jury in presence of the body, and I also swore in Dr. Ladouceur to make the autopsy ; I first had the body properly identified, and I then proceeded with the inquest and made my report, which I afterwards gave to the Coroner.

The Coroner, Dr. Turcotte, was here sworn and produced the report of the inquest. He stated that Dr. Provost had been appointed by him as his deputy.

Dr. Provost continues :—The document which is here produced to me is the report of the inquest which I held on the 2nd January last, on the body of the deceased Joutras.

Cross-examined :—I cannot say how many people were present at the inquest. The room was full ; I first examined the witnesses during which time Dr. Ladouceur was making the autopsy. The crowd had not access to the room in which the autopsy was being conducted. The jury were only there at the commencement.

The post mortem examination terminated about sunrise next day (3rd January). All the depositions were written by my clerk. The "viscera" of the deceased were given to me by the doctor at his house, situate about ¾ of a league from Joutras'. I was in company with the doctor all the time. The "viscera" were given to me in a glass jar. I could easily see the contents of the jar as it was transparent. I gave the jar to the Coroner who handed it back to me and directed me to make a chemical anaylsis of its contents.

Marie Plourde, wife of Michel Cajolette :—I know the prisoner at the bar ; also F. X. Joutras. I live about a league from Joutras. On the 22nd of December last he came to my house on horseback. He called me out, and said he was

very ill, and thought he was dying; that he had no control of his legs, and that he was suffering martyrdom. He asked me to try and dismount him, or at least to drag him to the ground, saying that I should then be able to drag him into the house. With the help of my boy, who went on one side, whilst I went on the other, I slipped him off his horse to the ground close to the door of the house. I got him into the house, and seated him on a chair; whilst I was taking off his boots he cried out terribly, but told me to go on, whether he screamed or not. After taking off his boots he continued to complain, saying that he would lie down, but was not able. I helped him up, when he said: "Sit me down again, I am going to die." I dragged him to the bed, and, with my son's help I laid him on it. He told me that whilst in the woods he thought he should die. I sent for a doctor. Before the doctor arrived, deceased repeated several times that he had great sorrow, which made him worse. He complained of pain in the jaw, and asked me for some salt, which he said might do him good. He said when he arrived he was only attacked in the legs, but now he was attacked in all his limbs. He told me he had drank some liquor, which Modeste Provencher had given him; he said he had about a tumbler full of it in a flask, and that he drank about half of it; the remainder had remained in the flask. He said he offered it to père Modeste Provencher, who would not take it, telling me to keep it, and drink it after eating. He said Modeste Provencher had left him as soon as he had given him his drink. He then commenced his dinner (after drinking), and the pains took hold of him at once. The place in the woods where he was working is about sixty arpents (a little over two miles from my house.) Exactly at 12 (noon) the prisoner, Modeste Provencher, passed my house, and ten minutes afterwards Joutras arrived. The prisoner was coming from the direction of the wood, and was going towards Joutras' house. Joutras said that his illness in the woods commenced by a feeling of sickness or nausea (mal de cœur), and that after that he had been attacked in the legs. He said he had shouted as he never had shouted before in his life; that neither his lungs nor his stomach were attacked. When I gave him the salt he put it into his mouth; he did not vomit. Whilst lying on the bed his body became arched, and rested only on the head and the heels. His body was as stiff as a bar of iron. He did not complain of internal pains. The flooring of our house is not solid, and if, in walking over it, we made his bed shake, he would start and cry out. He always cried out if he was touched. His mouth was shut tight. He spoke easily, and with difficulty, at intervals. He continued to get worse. Joutras said he would like to see his wife; I sent for her, and she arrived after the doctor. The patient got better about five minutes after he had taken remedies. The wife of deceased went away, saying she would go and get some bread, &c., to make her husband some soup; we had no bread in our house. The doctor arrived at 2 o'clock, and left about 3 P.M.; the woman left soon after he did. I remained alone with the sick man from that time till half-past four, when my husband came in. Modeste Provencher arrived with the wife of the deceased about 7 o'clock, or half-past. The patient was then much better, and had no relapse. He got up at 11 o'clock, and ate at table. Modeste Provencher and Joutras and his wife stayed all night with us. We went to bed about midnight. They left next morning at daylight. When he came to our house, Modeste Provencher said to

Joutras: "Poor child, you must have wished for me in the woods; why did you not call to me?" Joutras answered: "I cried out as loud as I could." Provencher then said: "Poor child, if I heard you, I would have gone to your assistance."

Michel Cajolette, farmer of St. Zephirin states:—I know the prisoner; I remember the 22nd of December last, I helped the prisioner to put his horse in my stable. We talked of deceased's illness. He told me that he had left him in the wood, that he had prepared a mixture of absinthe for him and that he had given him a drink before leaving him; when he gave him the drink, deceased had told him to help himself, but the prisoner had answered that he was going away and did not want any and said to Joutras, "if you cannot take it all now take the rest after your dinner. I went to the house of the female prisoner on the Monday and she drove me back home. A day or two before she was arrested, she told me on the road that nobody could prove that she had poisoned her husband, she repeated the same thing at my house.

Cross-examined by Mr. Chapleau:—I saw nothing extraordinary in the woman's telling me that nobody could prove she had poisoned her husband. I know of nothing against the prisoner. I was pretty intimate with deceased, he never complained of anything. The deceased was in the habit of taking drink with him to the woods. I have drank with him. "Pére Modeste" said to him "you must have missed me in the woods" and deceased had replied that he had called out and that he should have liked to have him with him. They were good friends. I never saw deceased take liquor that produced the same effect on him as this.

Dr. Ladouceur:—On the 22nd December last I was called about noon to go and see F. X. Joutras. I went to Mr. Cajolet's. On arriving I found F. X. Joutras on a bed; upon seeing me, he made a bound on the bed; he said: "Doctor, come quick; I am going to die." I reassured him; I asked him the cause of his illness, and he said he had gone chopping wood with Provencher, and that about noon Provencher had left with him a bottle of bitters to drink before his dinner; that he had drunk a glass of it just before eating, and that a few minutes afterwards he was taken ill. He described his illness as follows: He was taken with numbness of the legs, and that in a very short time his legs stiffened, and he fell down; some time after, being a little better, he got upon his "Suisse." That going over a stump his "Suisse" broke, and that after much trouble he succeeded in getting upon his horse's back. I then stopped his talk. His pulse was strong and quick; he complained of oppression in the throat, great pains at the pit of the stomach, pain in the neck, stiffness of the extremities, in which the body participated; his chief pains were in the inner part of the thighs, as if the nerves were trying to contract. The least noise or movement increased these pains in his epigastrium and elsewhere. He begged me not to touch him, as it hurt him excessively. The pain in the pit of the stomach increased, if I touched him. He did not complain of headache; his intellect seemed clear. Before remarking these symptoms, I had given him a dose of opium and sulphuric ether. Some time after this (a few minutes) he said he was somewhat better, and told me he had many troubles. To distract his mind, I offered him a smoke, and filled his pipe with tobacco, and lighted it, and put it into his mouth, because he seemed not to be able to take it into

his hands. As I saw that another spasm was coming on, I prepared him another calming dose, but of a smaller quantity. His wife arrived about that time. He had another spasm before I could give him the second dose. I made him take it, and at the same time took a strong hold of his thighs, despite his entreaties to the contrary; I rubbed them hard, especially on the inner surface, where he said the pain was strongest, and I bent his legs backwards and forwards. All this time he had tetanic convulsions. The convulsions caused him to bound upon his bed. After rubbing him for some time, he got better. I placed him, by means of a pillow, in a nearly sitting position, and gave him another smoke. He wished to take his legs from the bed, as he was perspiring violently; I did not object, but after a little while I made him put them up again. He said the stomach was much better, but that there was still some pain left. I was going to give him another calming dose before going, and prepared and gave him one-quarter of a grain of morphine in a little warm water. He asked me whether I thought it was rheumatism, because he said he had had some before, but that this time it was much more violent than usual; that in previous attacks he had never had the spasms or bounds. Upon being asked what was the matter, I answered him (not being quite sure) that, if it were rheumatism, I had never before seen anything like it. As I was going away, he asked for a purgative, as he thought he was bilious. I went back home, and sent back two purging powders. I heard nothing until the 24th, through the parish priest, who said he had been giving the sacrament to Joutras, who was very ill. On the 25th the wife of Joutras came to me after mass, and asked me for something for her husband, for pains in the stomach, and I gave her a compound ipecac powder, I saw Joutras again only on the 31st, about 11.30 A.M. On coming into my house, he said: "It is my turn to come and see you, now that I am better." He requested me to go on treating him as I had done, so as to try and set him up again altogether. He said he thought I could cure him, if I tried. He said he was much better, but that his legs were still weak. He also complained of burning at the stomach, and want of appetite. Whilst preparing remedies for him, he asked me whether drink was bad for him, saying that on the evening of the 29th he had taken some absinthe and belle angelique drink, and that some time after he had severe pains; that they lasted a shorter time than on the 22nd; he also said that he had taken the same mixture of absinthe and angelique between the 22nd and 29th, and that he had pains immediately afterwards, which was the reason for his asking if drink was bad for him. I told him that it was evident it was bad for him, as he was ill each time he took any. I then advised him to drink hot milk, instead of liquor. I now began to suspect, and I gave him eight powders of carbonate of magnesia and carbonate of iron, telling him that the magnesia would calm the heartburn. He again said he had many troubles, and added that he was unhappy, living as he did. He then left me, and I never saw him again, until called upon to make a post mortem examination of his body, on 2nd of January. On the 31st December, Modeste Provencher, about 11.30 P M., came to Moses Hart's, where I was. He said he had come to see me about Joutras, who was taken ill; that he had taken one of the powders I had given him that day, and he did not think it did him any good, as he was ill after it. I said, "I will go and see him;" but he answered, "I did not come to fetch you—I came to fetch some medicine like what you

gave him at Cajolette's, when he was taken ill in the woods." I went to get the powder; I weighed out three-quarters of a grain of morphine, and gave it to Provencher for the sick man. Provencher said he had a hard time of it, as the horse he was driving wouldn't keep the road, saying it was Joutras' horse, and saying: "If it was mine, I should have been home long since." Provencher then left. The next day (New Year's), in the morning, a man, called Narcisse Joutras, came and told me that F. X. Joutras was dead, at which I was surprised. On the 2nd January, on the requisition of the deputy coroner, I made a post mortem examination of F. X. Joutras.

Report of post mortem, forty-eight hours after death.—In the external examinations, I found that the extremities only were rigid. The lower surface or back) of the corpse, which was lying on the back, was covered with echymosis of a violet colour, excepting at the neck, where the colour was very black. After making an incision through the cellular tissue on each side of the sternum, a great quantity of serum escaped. Upon opening the thorax, I found the pericardium of a red colour, being probably the result of infiltration after death. I found in the interior of the pericardium nearly two ounces of black blood. The heart, of natural size, was completely dilated in its auricles and ventricles. The outside was of a darker colour than is natural; its cavities were empty, and presented the same appearance as the exterior. The lungs were much congested, of a black appearance, especially in the posterior part; they were very friable, and, upon pressure, a dark brown froth came out. There was an escape of about one pint of black blood in the right pleura; the left one contained a little more. On the posterior part of the lungs there were small white deposits, which, upon being opened, gave out a froth of the same colour. The aorta, as well as the large vessels, were empty. I found no trace of disease in any of them. The brain did not present a natural appearance in all its parts. The dura mater was moderately congested. Towards the middle of the frontal bone—between this bone and the dura mater—was found a whitish substance, very brittle, and about a line in thickness. The arachnoid was strongly congested in its whole extent, especially towards the lower part. The white substance of the brain was but slightly vascular.

Abdomen.—Liver of an ordinary size strongly congested with black blood, the right lobe was softened and friable, especially at its posterior part. The gall bladder contained about one drachm of bile. The kidney was slightly swollen and much injected with black blood; the spleen was of considerable size and like the other organs contained black blood; putrefaction was far advanced. The stomach measured eighteen inches in its greatest length on the large curve, and twelve inches in its greatest circumference. It contained a large quantity of inodorous gas; the internal surface was covered with a thick black mucus—I did not examine the stomach further, as I wished to preserve it in case of analysis.

Intestines.—The external surface of the transverse portion of the duodenum was of a redish colour and appeared congested. The internal surface was also congested; upon scraping the surface with a scalpel, I detached a layer of reddish brown mucus. The ascending and descending portion seemed more slightly inflamed, the rest of the intestinal canal was in an extraordinary state of putrefaction, and it was difficult to distinguish traces of inflammation, which in any

case must have been very slight, so that I can not give an opinion concerning the alimentary canal unless analysis of its contents is made. I said before the coroner's jury, that I could not explain Joutras' death from what I had seen of the illness. I could not say, without analysing the alimentary canal, &c., as I did not find in my post mortem any certain cause of death. I was asked by Joutras' wife, when I said I could not account for death, whether I had a spite against her. I said no; but I thought Joutras did not die naturally. I had tied the stomach at the two ends; I had also tied the gall bladder, and divided the colon. A part of the small intestine (duodenum transverse) was also attached to the stomach: these remains were put on a plate, furnished to me by the deputy coroner, and were covered with paper and a towel. I asked more than twenty times for a large wide-mouthed bottle, and was unable to get one, and a plate was all I could get. Whilst I was making the post mortem, people kept coming into the room; I could not keep them out. I had an assistant, Mr. Hart; and Lahaie, another man, lighted me. I took all the precautions I could with the facilities afforded me, but they were few.

Examination resumed.—On the 31st December, Joutras brought me back a powder, saying it was the powder that I had sent on the 25th. I saw Mrs. Joutras on the 4th of January, at my house; it was the day of her husband's funeral. She said, "Doctor I am in a bad position; I don't know what they want to do to me, they wish to kill me with troubles." She asked me if I was angry with her, and I said I had no reason to be.

There were intervals between the tetanic convulsions that Joutras suffered when I saw him at Cajolette's; whilst they lasted his jaws became closed, and fixed, but parted again as soon as they ceased. In the *post mortem* examination I discovered no cause of death. The symptoms that I observed on the 22nd December were similar to those that would exist in poisoning by strychnine; from what Joutras told me on the 31st, I should attribute the symptoms he described of his illness between the 25th, and that day, to poisoning by strychnine; I do not say they were, but they certainly resembled them.

Cross-examined.—It would have been possible for any one smart enough to introduce foreign substances into the body, but I did not divide the stomach from the body until after the examination was finished; I never left the body out of my sight during the examination; I smoked all the time and would have drank, had I had the wherewithal. I never saw a case of poisoning by strychnine. The symptoms of poisoning by mushrooms might be similar to those of poisoning by strychnine. I never saw a case of trichina spiralis; nux vomica resembles strychnine in its effects, but the former contains the latter, about 1 gr. in 300. Half a grain of strychnine is supposed to kill, but I cannot say whether even three grains must. I have seen traumatic tetanus. Idiopathic tetanus I have never seen, but from what I have read I believe that the symptoms may be like those of strychnine. I do not much believe in idiopathic tetanus, but think that in most cases there is some wound which is perhaps not discovered.

By the Court.—It is impossible to state a given quantity of any poison that must indiscriminately kill any one.

Dr. Giroux, of Three Rivers, states:—On the 30th December last, a person came to my office at Three Rivers, and asked me whether I would oblige Dr. Smith, of La Baie, by letting him have a little strychine. That person, I believe, I recognise in the prisoner at the bar. At the time of this application being made to me, a man called Didace St. Pierre, whom I now recognise here, was seated in my office. I at first refused the request for strychnine; upon being pressed, I, after some deliberation, yielded, not thinking that any harm would come of it, and I weighed out and gave the applicant, who said his name was Joseph Therien, of La Baie, eight grains of strychnine, for which he paid me half a dollar. He put the poison, which was wrapped in paper and labelled "poison," in his pocket, and asked me whether it was dangerous, or could hurt him to carry it in that way. I told him that he ran no risk, so long as he did not take any. I did not believe the strychnine was for Dr. Smith but imagined it was wanted for the purpose of poisoning foxes.

Cross-examined:—I am not a druggist. This is the first time I ever sold poison to a stranger, and it shall be the last. When I heard, on the 2nd January, that there had been a case of poisoning, I had misgivings, which I still entertain. I should very much like to see my strychnine back. I stated that the person who came to me wore a heavier beard than the prisoner, and that he had a moustache; and I still swear that the person that came to me on the 30th December did wear a moustache. Some seven or eight days ago Hilaire Provencher and his brother came to my house for medicine; and when they told me they were from St. Monique, I asked what sort of character the prisoner bore, and was told, "very good." I did not say that he deserved to be hanged, like a dog, and that my evidence would hang him; what I said was, that it was unfortunate that a respectable man should get into such a scrape, more especially as he would be hanged, if convicted.

Didace St. Pierre, of Three Rivers, states:—On the 30th December last, between 12 and 1 o'clock, p.m., I was at Dr. Giroux. A man who called himself Joseph Thérien came in whilst I was there. I am positive that man is the prisoner at the bar. I had nothing else to do than look at him whilst he was talking to the doctor; he asked the doctor for some strychnine for Dr. Smith, of La Baie, as a favour. I saw the Doctor weigh and wrap up something, and he then wrote "poison" upon the paper; I cannot read, but the doctor told me that was what he had written. The prisoner asked whether carrying the strychnine in his pocket could harm him, and he was told there was no danger so long as he kept it out of his mouth. I fancied the poison was wanted to kill foxes. I think the prisoner wore a grey *capot* and trousers, and otter-skin cap. I saw the prisoner again the day before yesterday (Thursday) in jail. Mr. Armstrong sent me to see whether I recognised him. The man I saw in jail is the same man I saw at Dr. Giroux, and I recognised him at once. The only difference in his face is that he has taken off a moustache, which he wore when I saw him the first time, and that his beard has been trimmed. I have never spoken to Dr. Giroux on this subject, either here or elsewhere. The only person whom I have spoken to about the trial is Mr. Armstrong. I swear that the person who came for poison to Dr. Giroux on the 30th December last was the prisoner at the bar.

Pierre Elzeard Pothier, merchant, of Three Rivers, states:—I have known

the prioner of the bar for about a year and have often sold him goods during that time: the last time I saw him was about the 30th December. It was on a Sunday morning, between 8 and 9 o'clock. He brought me a letter from Mr. Moses Hart, of St. Zéphirin; I saw him about one o'clock, P.M., that day, and at about one, or half-past one o'clock, P.M., I left Three Rivers with him to go to St. Zéphirin. When I saw him in the morning, he told me he wanted some things at the doctor's; from what he said, I understood that he wanted medicine for Dr. Ladouceur, and I recommended him to go to Mrs. Vallée, as she was a widow, and it would help her. Mr. Hart had written, saying that he had sent Provencher to fetch me; but he (Provencher) said the roads were so bad that he did not think he could take me, and he left me, saying he was going to Mrs. Vallée's. I saw him again after mass, and he said he had decided to take me, if I liked; we got to St. Zéphirin that night. I saw the prisoner again at about half-past eleven on the night of the 31st December, at Mr. Hart's; he came there to see Dr. Ladouceur, to get a powder for Joutras, who, he said, had been taken ill. The doctor offered to go and see him; but the prisoner said he had not been sent to fetch him, but to get a powder. He only stayed a few minutes at Mr. Hart's.

Cross-examined:—He told the doctor that Joutras had taken one of the powders he had given him, but that it had done him no good, and that he had come to get a powder like the one he had given him at Cajolette's. I cannot say whether the prisoner wore a moustache the day I saw him in Three Rivers. He wore a dark grey coat; that I can swear to.

Dr. Joseph A. Smith, of La Baie, states:—I know the prisoner at the bar; the first time I saw him was on the 20th December last; he came to me professionally, saying that he was ill; could not sleep; had no appetite, and often suffered from acidity of the stomach; he asked for a purgative. I prescribed an emetic for him, which my son prepared and gave to him; and I also gave him a small quantity of laudanum, to make him sleepy.

Joseph Lemaire.—I know Modeste Provencher, the prisoner; I knew the deceased; I live nearly opposite to where he did. During the last week of his life he was sometimes well and sometimes very ill. I was present twice when he was ill. The first time was on Christmas eve. Modeste Provencher, on that day, came to me about 6 a.m. to go and see whether I thought he was ill enough to send for the priest. I went; he was quiet, I placed my hand on him, and he made a bound and cried out, saying not to startle him, that it excited him. I was with him about a quarter of an hour; I went back again in about half an hour, my feet being covered with snow, I stamped them to shake it off; the deceased cried out and bounded. The priest came about one hour and a half after I went in the second time; when the priest was giving him the communion. the deceased seized his hand and guided it to his mouth, and kept hold of it during the whole ceremony; he seemed to take hold of it so as not to be startled by it. I left as soon as the ceremony was over. On the Sunday following deceased came to my house; it was the sunday before New Year. During his easy moments on the 24th, he was quiet enough and spoke well. On the 31st Dec., I again saw deceased at his house at about 7 p.m.; he was then ill. I had seen him that afternoon with his horse; in the evening he was on his bed and alone, I said, try and get up, and he sat up on his bed with ease; there was no light or

seat in the room, and being tired, I went to the kitchen where I found the prisoner, and Sophie Boisclere. I told deceased to come and chat with us and he came; he asked for something to eat, and his wife gave him some soup. He complained of cold about a quarter of an hour after coming into the kitchen. We went on chatting about ten minutes. He then said he did not think he was able to get up, and I said, 'Oh! get up you can do it," and he did it easily and walked round the table. He then complained of his heart, (cela lui travaillait le cœur) and then said his feet were getting numb, he then went to the stool and was windy. Modeste Provencher said, it seemed to affect his behind, and they both (Provencher and Sophie Boisclere) laughed; I went home, leaving him on the stool. When I left Joutras, the only people in the house besides the children were Modeste Provencher and Sophie Boisclere; I was called by one of my children, and told to get up, as Joutras was very ill; my wife went there whilst I was dressing; when I got there he was in convulsions, and Modeste Provencher was holding him. The spasm lasted one minute to one and a half minutes after I arrived, he then got quiet. He said to me, "you never went for the doctor;" I answered, no because I never was asked, but that I could go then. Modeste Provencher asked me if I would stay, and that he would go for the doctor, and he got ready. I held the patient, who liked being held. In a very short time he said he has not gone yet; a little time afterwards he repeated it. He repeated this a third time, but of course he found the time long. The third time the remark was made, I think Provencher had time to go, but I did not think the delay was excessive. When he was telling me this he had spasms, and it was during them that he made the observations; he became calm at intervals and then said he was going to die, he was praying all the time.

In the last spasm in which he died, he spoke with difficulty and followed me in prayer as best he was able. Some minutes before he died, he said his tongue was drying up, and I told him to try and moisten it with his spittle; he tried but could not do it. Before his death his wife was in the room, but not in the same room at the time of his death; one of my sons was in the room; my son's name is Xavier. One of his cousins arrived whilst he was insensible, but before he had ceased to breathe. His wife asked soon after his death whether he was dead, and we answered, "yes." She then asked me to send my son to meet the doctor to send him back, saying it would cost her less; my son went and came back with Provencher about an hour afterwards. I asked Modeste Provencher if he had fetched the doctor, and he said no; that the doctor had said he had seen him that same day and that it was not necessary to go and see him again, but would send him a dose. From the time I last went to the house up till Joutras death may have been half an hour—during the spasm the deceased was greatly excited; his body seemed to stiffen and bound as well as he could, considering nearly my whole weight was on him; his head jerked backwards, and his body and his legs jerked in the last spasm; the body remained stiffened until he died. After the spasm in the limbs, his face became contorted, he died with fixed jaws; during the contortions of his face it changed colour, but I can't describe it. The hand I held pressed mine, but I took it as a farewell. When my arm passed round his body it was in a profuse perspiration. He was sensible to the last.

Cross-examined.—He was insensible perhaps a couple of minutes before dying. The face assumed a natural aspect soon after death. The deceased made no

complaint whilst dying. The last spasm may have lasted eight or nine minutes about, and the one before that I think was a little longer. I never saw children in convulsions. I held deceased at his own request; he said he was easier when held. I did not see any shiverings.

After the death of Joutras, I had a glass of whisky with Provencher before dressing the body. He spoke up to within a few minutes of his death; when I dressed the body the face was tranquil, and like that of a corpse in general.

Luc Trahan, Priest of St. Monique.—I am the priest of the parish St. Monique, I knew the prisoner, also deceased; on the 24th of December last I administered the last sacrament to F. X. Joutras; I was fetched by the prisoner. I arrived in the forenoon, and when I arrived there were many people there; when I arrived at the patient's room door, he made a bound upon his bed, crying out; I commenced to confess him; he was calm at the time and spoke well, and had all his senses. When the confession was finished I prepared to give him the holy wafer; he seized the wrist of the hand in which I held the holy wafer, I gave communion without disturbing him; he held my wrist all the time. When I had finished I proceeded to give him the extreme unction and in anointing him I noticed him shiver at each touch; when they prepared his feet for anointing he jerked spasmodically. I finished the ceremony and he then remained quiet; I spoke to him for a few minutes afterwards. About that time he told me he was in great trouble; he did not say about what; I never saw him again. I have administered many thousand persons, and never saw an illness like Joutras', except one other person; I can not say what the cause of death was in that case.

Cross-examined.—The confession of Joutras took about fifteen to twenty minutes; Joutras spoke quite easily. The jerking of the feet was not violent when I anointed them; I don't know whether the body was agitated. He was in a reclining position and had nothing in his hands; we anoint the eyes, nose, mouth, ears, hands and feet. He never tried to prevent my anointing him. He did not hold my hand at all whilst I was administering the extreme unction. He seemed calm nearly all the time I was there. It was my impression that he held my hand for fear of being startled by it.

Joseph Joutras.—The hands of the body were clinched and the toes bent down. The limbs were very stiff, so much so that it was with difficulty we took off his clothes; he had not taken his clothes off since he came in, and had his greatcoat on.

I never saw deceased when he had spasms; I was not asked by the coroner whether the deceased's hands were clinched and feet bent, and I did not think necessary to say so.

Dr. Provost.—The bottle which Dr. Ladouceur placed in my hands on the 3rd January last, containing some of the viscera of F. X. Joutras, I gave it to the coroner who gave it back to me and told me to analyse the contents; I produce that bottle, it is marked Estomach de Joutras 10. This bottle was corked and sealed when given to me. The bottle now contains the paper that was used for filtering during the chemical analysis; I gave the bottle to the coroner on the 4th of January, and received it back on the 7th.

Dr. Turcotte.—I placed the bottle here produced in the hands of Dr. Provost on the 7th January, in the same state as it was when given to me by him on the 3rd or 4th. I had kept it under lock and key in a trunk in Dr. Provost's labora-

tory. Dr. Provost kept the key. I am nearly certain that it was on the 4th that I received the bottle, I did not place a ticket or any private mark on the bottle, or on the trunk it was placed in. The ticket was on the bottle at that time; it is written by Dr. Provost whose writing I know; on the 7th of January I placed the bottle in Dr. Provost's hands for analysis, and swore him and Dr. Bruneau to make it.

Dr. Provost.—It was on the evening of the 7th I received back the bottle from Dr. Turcotte; it was in the same state as when I received it from Dr. Ladouceur. That same evening we commenced our analysis, (Dr. Bruneau was present when I received the bottle at my house between 7 or 8 p.m. on the 7th). I made a report of our proceedings; we made notes as we went on; I recognise our report in the one now produced. The same evening that I was sworn in with Dr. Bruneau, I am positive that the bottle could not have been opened since. I received it from Dr. Ladouceur on the morning of the 3rd; we opened the bottle, and found in it a stomach, duodenum, gall bladder and part of the colon; the œsophagus had not been separated from the stomach, and there were four ligatures, one at the cardiac orifice, another tying up an incision that had been made in it, another that tied up the canal between the gall bladder and the ductus communis choledochus, and the fourth at the extermity of the duodenum; the stomach was empty and contained only a small quantity of mucus (about two ounces) which adhered to the coatings; this mucus was taken out and placed in a bottle for analysis. The mucus of the stomach was of a dark red with black spots. The mucus membrane of the duodenum was of a pale red throughout; it was empty; the part of the colon which we had was but little injected. The gall bladder contained about one drachm of bile, and nothing else remarkable. A small quantity of mucus taken from the stomach was tested for arsenic by Reinch's process; the small copper needles that were used for this purpose were tested in Marsh's apparatus. They produced no change in the character of the flames formed by the combustion of the hydrogen that the process gave out; it made no mark on a piece of porcelain that was held in it; we also discoloured a portion of the mucous with animal charcoal; the liquid reagents, such as ammonio-nitrate of silver, hydrosulphuric acid, and ammonio-sulphate of copper, produced no change of color; these experiments proved to us that the stomach did not contain arsenic.

The remainder of the contents of the stomach was tested for strychnine by Staâ's process, we operated on the mucus with diluted acetic acid, heated the mixture during an hour, filtered it, evaporated it to one half, and treated it with alcohol; we then evaporated to dryness; the remainder was then boiled in distilled water placed in a tube and shaken with three times the amount of ether. The ether was then drawn off and evaporated on a porcelain dish. The residue obtained by this process had a bitter taste, upon adding to it a drop of concentrated sulphuric acid and a small crystal of bichromate of potash; on moving this on the dish it left a dark blue mark, passed to violet, purple and finally red. I concluded that these symptoms could only belong to strychnine, *i. e.*, that the mucus I was examining contained strychnine; of all the mucus in the stomach I took one-third to test for arsenic, and two-thirds to test for strychnine. At this stage of my analysis, the crown counsel came in with Dr. Girdwood of Montreal, and he told me that the government had named a chemist whom they

wished to help me in my work. Dr. G. P. Girdwood was the person named That at least was the substance; I made no objection with the proviso that all his experiments should be made with my consent and in my presence. This was on a Friday, in February. I gave Dr. Girdwood the stomach, and gall bladder which were in separate glass bottles, and sealed (I had on the 7th of January, placed the viscera in four different bottles), to analyse them in my presence. (Description of process overruled). The duodenum I treated by another process which I found was much quicker (for strychnine). The basis of this process is the use of hydrochloric acid and chloroform, instead of acetic acid and ether. The mode of acting was this; I first chopped up the duodenem, which was placed in distilled water, with one-sixth of its weight of hydrochloric acid. This mixture was heated on a vapour bath, until dissolved. I then let it cool to separate the fat, and then filtered it; the residue was washed in distilled water, and the liquid obtained by filtering, was treated with excess of ammonia and sulphate of magnesia, refiltered and treated with chloroform, and shaken up. I then drew off the chloroform, evaporated it on a dish, and treated the residue with concentrated sulphuric acid which was treated for several hours to destroy organic matter; it was then diluted, refiltered and more chloroform added; this was then evaporated on a dish, and then tested with sulphuric acid, and bicromate of potash and binoxide of lead. The same series of colours were produced as by Staâs process, *i. e.*, blue, violet, purple, and from these to red. I came to the conclusion from this that the duodenem contained strychnine.

Dr. Turcotte.—At the same time, that I gave Dr. Provost Joutras' viscera, I gave him a packet containing six powders that I had received from him, and which I asked him to analyse; this was all I gave him.

Dr. Provost.—The coroner on the 7th January, gave me a packet containing six powders, of a red and white mixture, and another small white one; the small one weighed one grain and three-quarters, had a bitter taste and no crystalline appearance. I treated this powder with nitric acid, and it gave a precipitate of a red orange colour, which became darker upon adding ammonia; upon adding chloride of gold it gave a pretty yellow, with perchloride of iron a blue; which led me to the conclusion that it was a preparation of morphine. The other six powders were carbonate of iron and magnesia. On the 24th January, I was given some things to analyse, and among them was a packet that the coroner told me contained some things found in Joutras' house.

Dr. Turcotte.—On the 24th January or thereabouts, I gave Dr. Provost a bottle containing a sprig of absinthe, and also a packet containing two powders and a pellet of grease.

Dr. Provost.—This packet was given to me and Dr. Mignault of St. Michel de Yamaska; upon opening this packet, we found two powders, one of which was sulphate of magnesia, which we tested for strychnine and found none. The other powder was smaller than the first; it weighed eight grains, and was neatly folded up as if by a Doctor. The powder was white, and under the microscope showed octohedral crystals. This powder was proved to be arsenic; we tested it for strychnine but found none, the pellet which the packet contained was composed of two pieces of suet stuck together, and upon being opened we found in the centre about one grain of white powder of a bitter taste which turned out to be strychnine; these powders, as well as part of the intestines, that were

not analysed, and a small quantity of strychnine obtained from Joutras' stomach were given back to the coroner. The powder contained in the pellet was also analysed by Dr. Girdwood in my presence. With Dr. Bruneau, I analysed the contents of the stomach, the duodenem, a powder containing morphine, six powders of carbonate of magnesia and iron; with Dr. Mignault I analysed a pellet containing strychnine, an arsenic powder, and some sulphate of magnesia. Dr. Girdwood analysed the stomach and gall bladder in my presence, and also a portion of the powder contained in the pellet. He also verified my experiments for arsenic. The colours obtained in testing for strychnine by sulphuric acid and bichromate of potash are seriatim, blue, violet, purple and red. I only saw Joutras after his death; he must have weighed about 140 lbs. I concluded from the whole of my analysis that the viscera given to me contained strychnine. I can not say the exact quantity they contained, but there was a good deal of it. I can not make an exact calculation of the amount of strychnine that would be contained in the whole body. I have heard the evidence in this case, and from the symptoms described in the case, I am of opinion that the deceased F. X. Joutras during his life took sufficient strychnine to cause death, and that his death was caused by that poison. I never saw any natural disease cause symptoms similar to those in the present case, nor do I know of any natural disease that could cause them.

Cross-examined.—The symptoms I have heard described indicate to me, apart from the analysis, poisoning by strychnine. I never was present at the death of a human being from the effects of strychnine. I myself poisoned a small dog with strychnine. I did not weigh the dose.—The dog died in about two minutes, the symptoms became apparent about a minute after I administered the poison. The action of strychnine is not instantaneous upon reaching the stomach, it generally operates at an interval of from half an hour to two hours after being swallowed. A large dose might perhaps act more rapidly than a small one, but the size of the dose, as a rule, should make little difference in the time required to produce symptoms of poisoning. This poison would act quicker given dissolved in some liquid than if incorporated with a solid substance. Strychnine is easier dissolved in warm fluids or in alcohol than in other liquid. One grain of strychnine would give a bitter taste to three gallons of water *i. e.*, to a volume of water of 100,000 times its own bulk. There are four hundred and eighty grains in an ounce. The dose to cause death would be from half a grain to five grains; strychnine is absorbed in the blood and tissues, and unless death supervene is eliminated from the system with the other secretions. Strychnine is composed of oxygen, hydrogen, nitrogen and carbon, which are also the principal elements of animal tissues, but in different proportions. I found my opinion concerning the symptoms, upon what I have read. The absorption of the poison commences at once, sometimes a small quantity is absorbed quicker than a large one. In a great many poisons the absorption of part of a strong dose might cause death and the remainder would then be found in the stomach. After the first manifestations of poisoning, any one who has taken strychnine either soon dies or gets better. It is not only in poisoning by strychnine that nervous twitchings are observed. I have read of cases of poisoning by strychnine where the face became placid after death. Nearly all authors agree in stating that the rigidity of the limbs caused by the last spasms continue after death, but this is not always the case: from rigidity of limbs alone

I should not infer poisoning by strychnine as there are other diseases which cause it. Clenching of the teeth is not a constant symptom although it generally exists during the spasms, once the spasm ceases the jaw resumes its laxity. There are many diseases which cause the same symptom. Poisoning by strichnine produces a contraction of the respiratory muscles respiration during the spasms becomes completely suspended and the difficulty of breathing increases with each succeeding attack: difficulty of breathing is not necessarily an indication of poisoning. In poisoning by strychnine the eye is prominent, but the pupil is not dilated. A very general symptom is a pain in the pit of the stomach, which is due to contraction of the diaphragm. Contraction of the extremities is not a certain indication of poisoning by strychnine as it is met with in other cases. In poisoning by strychnine, the poison is carried to the nervous centres, (the brain and spinal marrow) by the circulation, which takes from a minute to a minute and a half. The spasms generally last from one to two minutes: there are intervals between the spasms: there is a muscular trembling which resembles a shiver, before the spasm. The symptoms of poisoning by mushrooms do not resemble those of strychnism. I have read the symptoms of trichina spiralis: it is a disease caused by eating pork, infected with an animalcula of that name; convulsions are not a necessary symptom of death from that disease. The symptoms observed in deceased are not the same as those of angina pectoris though there are sometimes convulsions in this disease. My conclusions as to the cause of deceased's death are based upon all the symptoms manifested since the 22nd December. I understood the witnesses to say that in the last illness the head was convulsively thrown back, that the extremities were contracted, that a strong pressure on the thorax relieved the patient, that there was no loss of consciousness and that after the spasm the muscles resumed their usual state. That there was no delirium, that the patient complained of great pain in the epigastric region and of pain and weakness in the legs, that any noise caused him to start and that he was conscious of the approach of a fresh spasm and also predicted his approaching death. Angina pectoris caused by hydrothorax reveals itself suddenly and has the same effects as when caused by anything else with the exception that some symptoms of hydrothorax may be mingled with them. The chief characteristic of the disease is great pain behind the sternum. The symptoms you have just described might be caused by strychnism and might also be caused by Angina Pectoris with the exception of bending back of the body, which would I think sooner be bent forward. I cannot say that those symptoms cannot possibly belong to any other disease They much resemble the symptoms described by the witnesses with the exception that some of them have not been mentioned. The irregularity of the pulse and the feeling of inexpressible agony were not mentioned by the witnesses: I heard them say that deceased was in pain and thought he was dying, but that is not what I should call inexpressible agony. I could not confound the symptoms described with those of angina pectoris, even supposing I had known nothing of the case before the trial. I know of no pathological lesions existing in the body of deceased. I find in the thorax lesions that may have been caused by death from asphyxia. The effusion of blood in the pleura may have been caused by death from asphyxia. In anasarca, after death, a quantity of serum escapes, and anasarcas is an indication of chronic disease. Accord

to the report there were black spots in the mucus of the stomach, but there was no appearance of gangrene having supervened. These spots indicated an inflammation of the mucus membrane of the stomach. I do not think that the inflammation had existed long, chronic gastritis might produce the indications observed in the stomach, but there is generally a thickening of the mucus membrane. It is a nervous disease: it is a spasm of the stomach, which does not generally produce cramps; the pain often comes on at intervals. I can base no diagnostic fact of the brain being congested as it exists is so many diseases: people dying of a tetanic disease have this symptom. I cannot form an opinion as to the cause of effusion of blood in the pericardium taken by itself: it is not a sign of dropsy of the heart because the effusion in that case would be of serum and not of blood. The putrefaction of the intestines as described in the report is in my opinion due to post mortem decomposition. I performed some of my experiments on the mucus alone, but I repeated them in presence of Dr. Bruneau, some of them were also made in presence of the coroner. I am certain that the reagents I used were pure. The colors mentioned are produced by strychnine alone, if I except a South American poison called curara, that poison produces the same series of colours, but there is none of it in this country. As to the authors who do not believe in the colour test, I will believe them when they show me anything else that will produce the same series; until such time nothing will shake my conviction that the test is an infallible one—curara always excepted; absorption does not decompose strychnine, nor is it decomposed by the secretions. Chemists have sometimes failed to discover strychnine which existed in organic matters. I know that chemists report having applied the color test in vain, where strychnine had been ingested, but I have succeeded every time I have tried the experiment. I never was a professor of either chemistry or toxicology. I did not say that I had found strychnine in crystal in operating upon the duodenum and the mucus of the stomach, I have not any of the results of my experiments here. In the experiments upon the duodenum, the colours were well defined. I do not consider the bitter taste alone a certain indication of the presence of strychnine, I do not attach very great value to it, although it has its weight. The second method I employed is one that is well known but which has received no name, it emanates from Drs. Rodgers and Girdwood, I do not know whether it has ever been judicially proved. I see in Palmer's case that the inventors of this method cite in support of their views, many experiments that they have made with it. I repeat that the colour test is a sufficient proof of the presence of strychnine without anything else. The result of my experiments does not enable me to calculate the quantity of strychnine that would be contained in the whole body. I cannot say whether every part of the body would contain an equal quantity of strychnine. I forgot to mention as being amongst the symptoms described, that any noise or the slightest touch of the patient produced tetanic convulsions. The clenching of the hands and bending down of the toes are symptoms of strychnism and also of tetanus. There is no natural disease, excepting perhaps tetanus in which cadaveric rigidity would exist so soon after death as reported in this case. No one symptom is sufficient to lead to a conclusion of poisoning, you want a combination of symptoms. The pains experienced in angina pectoris and in strychnism are not of the same character. In angina pectoris, it is more than a pain, it is agony, and the seat of it is in the middle of the sternum,

whereas in strychnism it is in the epigastric region. In poisoning by strychnine the difficulty of breathing only exists during the spasms, whilst in angina pectoris caused by hydrothorax the oppression is continuous. During the tetanic convulsions respiration is completely suspended. In poisoning by strychnine there is a tetanic rigidity which first begins at the extremities and is afterwards communicated to the trunk, face and neck. In poisoning by strychnine not only is the body bent back, but the head is bent back also and forms an arch from head to heels, which are the only things on which the body rests. The jaws are convulsively locked and the corners of the mouth drawn back. None of these symptoms are those of angina pectoris caused by hydrothorax. Pains in the legs are not symptoms of angina pectoris caused by hydrothorax. There are no convulsions in this disease nor is there locking of the jaws. It is possible that in angina pectoris the face might become blueish or black, this would be caused by suffocation. If the convulsions that are described as having attacked the deceased at Cajolette's on the 22nd Dec., had been brought on by angina pectoris caused by hydrothorax, the deceased would not have been able to go to the wood that morning, nor would he have been able to work at a threshing mill for three days previous. Arsenic would not produce convulsions, there would be frequent vomiting and diarrhœa. There is no natural disease that has the same combination of symptoms as those observed in poisoning by strychnine. I know of no natural disease that has the same symptoms as those remarked from the 22nd to the 31st with intervals of relapse. I never saw any curara. In analysing the duodenum I adopted the process of Rodgers and Girdwood having seen it previously worked. In this process hydrochloric acid and chloroform are substituted for tartaric acid and ether which are used in Stass, process. Operating upon small quantities I think this process is preferable to Stass. Since the analysis I have used Rodgers' and Girdwood's method with success: it was by this process that I proved the presence of strychnine in the pellet of grease. I am still of opinion that death was caused by strychnine.

Dr. Pierre, C. A. Bruneau.—I assisted Dr. Provost, the last witness in the analysis of the duodenum and of the mucus of the stomach, and of a morphine powder, and six powders of carbonate of iron and of magnesia, which had all been placed in our hands by the Coroner. I signed the report and I perfectly agree with Dr. Provost in the evidence he has given. From all the evidence given in relation to symptoms in deceased's illness, and from the result of the anaylsis I made; I can attribute death to no other cause than poisoning by strychnine.

Cross-examined:—The bitterness of strychnine is greater than an ordinary bitter; in my opinion a grain of strychnine dissolved in a pint of water or alcoholic liquor would give it an unbearably bitter taste, but I never tried it. I heard the report of the autopsy made by Dr. Ladouceur; I should attribute the effusion of blood found by Dr. Ladouceur, in the pericardium to cadaveric putrefaction. This effusion, even if there were congestion, would not of itself be a proof of any organic disease. The heart's being dilated in its auricles and ventricles, and being of a darker colour than is natural are not in themselves proof of organic disease. Asphyxia might have caused these symptoms. The effusion of blood in the pleura does not necessarily indicate organic disease. This effusion could not take place without a rupture, but the rupture may have

been caused after death by decomposition of the tissues. Congestion of the brain is met with after death in many diseases. A much congested liver, full of black blood may be an indication of organic disease, but does not necessarily lead to such a supposition. An organic disease might cause sudden death. The injection of the kidney with black blood, and the dilatation of the spleen with the same substance are not symptoms of any particular disease, and might occur in ordinary or non-organic diseases just as well as in a disease which caused a violent death. The coating of thick black mucus on the surface of the stomach is common to many diseases, and indicates a lesion of the organs preceding death. In most cases cadaveric decomposition commences within twenty-four hours. The violet tints of the stomach are not always indications of inflammation of that organ. After death, the gastric juices which are in the stomach, often produce this discoloration, owing to their acquiring certain properties which they had not during life and also owing to the stomach having lost the powers of vital resistance. The black spots may have been owing to a stagnation of blood, and to the action of the gastric juices; this is often noticed combined with other symptoms which may be an indication of inflammation. I cannot say whether all the elements which compose strychnine, exist in the fibrine of the blood. Bichromate of potash is not coloured by sulphuric acid alone being added to it. I consider the colour test is infallible as a proof of the presence of strychnine. Lassitude of the limbs does not always accompany poisoning by strychnine. When the stomach is the seat of a disease, the last moments are sometimes accompanied with nervous tremblings and contraction of the face. The convulsions in poisoning by strychnine stop respiration and cause asphyxia which may cause death. The respiration is completely suspended in the paroxysm of the convulsion only. It is the muscles of the body becoming greatly contracted which causes the difficulty of breathing. Idiopathic tetanus comes on without any appreciable cause, great cold may cause this tetanus as also strong emotions; some authors have attributed idiopathic tetanus to the injection of certain substances. There are some who pretend that strychnine is decomposed by absorption into the blood and that it also changes the character of the blood. This question is not yet scientifically settled. I never saw a case of idiopathic tetanus; these cases are very rare, so much so, that one of the most eminent physicians of England, states that he has only met with one case of it.

To the Court.—Deceased may have died from poisoning by strychnine, and the body presents all the appearances described in Dr. Ladouceur's report of the autopsy.

Dr. Roch, M. S. Migneault.—I heard the evidence which has been given in this case, including that of Dr. Provost. I helped Dr. Provost to analyse a pellet of grease, which contained strychnine, an arsenic powder and a powder of sulphate of magnesia. I was present at the analysis of the contents of the stomach of deceased, I saw the result of the mucus and also the experiment made by Dr. Girdwood. I corroborate Dr. Provost's evidence concerning the analysis we performed together, and I certify as to the regularity of the proceedings and results produced. I saw the result of the analysis of the mucus of the stomach which was made by Dr. Provost, and I also saw the series of colours which were produced. This series of colors denotes the presence of strychnine.

The process made use of by Dr. Girdwood in treating the stomach was new to me in as far as the use of hydrochloric acid and choloroform were concerned, and I paid particular attention to it. From the evidence which relates to symptoms observed in the different illnesses described, together with the reports of the autopsy and chemical analysis, I can attribute deceased's death to no other cause than poisoning by strychnine. I never, in the course of my professional studies, learned that idiopathic tetanus produced intermittent convulsions, with intervals as well marked as in this case. I do not remember having ever heard of idiopathic tetanus in America. From what I have read, authors in speaking of cases of idiopathic tetanus, only mention having met with one or two cases amongst all the tetanus cases treated by them. Idiopathic tetanus would not present all the symptoms observed in the deceased. In the course of my practice I have met with three cases of traumatic tetanus. There are several symptoms which are common to traumatic tetanus and to strychnine, but there are in deceased's case many symptoms which are not met with in traumatic tetanus. I should define traumatic tetanus as being caused by an exterior wound, whilst idiopathic tetanus has no apparent cause, and might be called constitutional. Idiopathic tetanus might leave the organs in the state described in the report of the autopsy. In case of death caused by hydrothorax, I do not think the patient would be able to go a journey a few hours before death. An effusion of bloody serum in the pleura might be mistaken for an effusion of blood and might be caused by hydrothorax or other things. An effusion of blood in the pleura is not a sign of hydrothorax and could not be caused by it, hydrothorax is vulgarly called water on the stomach.

Cross-examined :—There are certain organic diseases where the symptoms might be modified by another disease; there are others which always produce the same symptoms. There might be inflammation of the lungs and liver together with a lesion of the heart. Inflammation of the lungs could not exist with pericarditis. The simultaneous existence of several morbid causes in the organism may complicate the symptoms of the principle disease by presenting besides others that were foreign to it, but that disease would nevertheless retain all the symptoms that are peculiar to it. Angina pectoris comes on suddenly. A man suffering from hydrothorax might attend to his affairs during certain periods of the illness. To cause angina pectoris, hydrothorax must be in a very advanced stage. A man suffering from hydrothorax might be able to go out in a carriage in the morning, and in the evening be attacked by angina pectoris and die. What I mean by attending to his business, is performing the work appertaining to his state in life. The dose of strychnine which caused the illness of the 22nd December, could not be the same as that which caused death on the 31st. A dose of strychnine having produced convulsive spasms, could not, after an intermission of six hours reproduce them and bring on fresh spasms.

To the Court.—My opinion is that strychnine was taken on the 22nd, 24th, 29th. and 31st. When arsenic has been taken, it is I think, always discovered in the analysis; being a mineral it is not eliminated from the system so easily as strychnine—but if it has been taken in sufficient quantities to create a morbid affection, its presence will be revealed by the chemical analysis, never mind what quantity had been thrown up in vomiting. I am still of the same opinion that I was, namely that deceased died of poisoning by strychnine.

Gilbert Prout Girdwood, physician and surgeon, being sworn, saith :—I do not understand the French language ; I have been present and heard the testimony given by the witnesses for the Crown ; I did not understand them, but have read the testimony as translated into English by Mr. J. G. Johnson.

Mr. Armstrong, on the part of the Crown, said he desired to ask the witness his opinion of the symptoms noticed in deceased as described by the former witnesses.

Mr. Chapleau, for the defence, objected to this evidence, as the witness did not understand the French language.

Mr. Armstrong proposed to swear Mr. Johnson as to the correctness of his translation.

This was acceded to by the defence.

James G. Johnson, gentleman, of Montreal, being duly sworn, said that the translation of the previous witnesses made by him from the French into the English language, and read by Dr. Girdwood, was a faithful translation.

By consent of the defence, the witness, Dr. Girdwood, was then heard, and he deposed as follows :

From the symptoms described by the previous witnesses, I have come to the conclusion that the deceased died of poisoning by strychnine. I have formed this opinion on the symptoms described by Marie Plourde, Dr. Ladouceur, Michael Lemaire, the Rev. Luc Trahan, and Joseph Joutras. These symptoms are not compatible with death caused by cholera, nor by convulsions nor epilepsy, nor by tetanus, whether idiopathic or traumatic ; nor by inflammation of the brain or spinal cord, nor by hydrothorax, nor by angina pectoris. The fullness of the pulse is incompatible with death arising from angina pectoris. In angina pectoris the pulse is weak. The symptoms described are incompatible with death caused by poisoning with mushrooms. In all cases of poisoning by strychnine, if death is the result, we are able to discover traces of the poison in the body, if we employ the proper mode of analysis. When strychnine is absorbed into the body, it is not decomposed ; it may be thrown out of the body, or eliminated in the same state in which it entered the body. It can be discovered even a year afterwards. I can demonstrate the presence of strychnine with sulphuric acid and bi-chromate of potassa, with sulphuric acid and binoxide of manganese, with sulphuric acid and binoxide of lead, with sulphuric acid and fero-cyanide of potassium, or with sulphuric acid and a stream of electricity. There is no substance known which, under the same circumstances, gives, with these reagents, the same series of colours, except strychine. Proof of the existence of strychnine, by the colour test, may be disguised by the presence of organic matter. This can be prevented by destroying the organic matter by means of concentrated sulphuric acid. I examined my chemical reagents, to prove their purity—that is to say, to prove that there was no strychnine in them. In examining organic matter for the presence of strychnine, I adopt a process of my own. This process was first published in the London *Times* in 1856, about the time of the trial of William Palmer : it also appeared in the London *Lancet*, and the *Pharmaceutical Journal*. There are cases published in which this process was employed. The only case in which I heard of symptoms existing identical with this case was that of a Mrs. Dove ; she died of poisoning by strychnine. I arrived at Sorel on the 7th

February last, at the request of Mr. Armstrong, to make an analysis in this and in another case. On the following day, the 8th, I went with Mr. Armstrong to the residence of the Coroner, Dr. Turcotte, there I heard some of the evidence taken at the inquest. I then went to the residence of Dr. Provost, and found him, in company with Dr. Mignault, making an analysis of a portion of the viscera, which they informed me had been taken from the deceased, F. X. Joutras. I asked them what process they had adopted; Dr. Provost replied that he was employing the process of Staas; he gave me the stomach after having first emptied its contents. I cut it into pieces with the assistance of Drs. Migneault and Provost, placed it in a new capsule, and covered it with dilute hydrochloric acid. I applied heat by means of a water-bath, and kept up the heat till the whole stomach was dissolved. This was then put aside to cool, and then passed through a wet filter. I agitated the clear filtered liquid with sulphate of magnesia and ammonia, and again filtered the solution. To this solution I added about one ounce of chloroform and shook them well up in a bottle, I separated a portion of the chloroform and evaporated it to dryness on a clean porcelain capsule. This residue I tested for strychnine, and I was convinced of its presence, nevertheless there still remained some organic matter. I then removed the rest of the chloroform from the mixture, and evaporated it to dryness. To the residue obtained after the evaporation of the chloroform, I added sulphuric acid and applied heat for some time so as to destroy all trace of organic matter, this was filtered after being diluted with water, so as to separate the carbon. The clear filtered fluid was neutralized with ammonia and again agitated with chloroform. This chloroform was evaporated and on being tested yielded strychnine in abundance. Dr. Provost gave me also a gall bladder which he said belonged to the body of François Xavier Joutras. The gall bladder was tied with pack thread and contained a small quantity of bile. There was less than one ounce in weight and it was treated by the same process just described as with regard to the stomach. I again proved the presence of strychnine, I called Drs. Provost and Migneault to witness the test for strychnine in both cases, I also saw the proof of the presence of strychnine in the contents of the stomach which was treated by Dr. Provost. Dr. Provost gave me a white powder which he had proved to be sulphate of magnesia. I also examined this and proved it to be sulphate of magnesia, he also gave me another powder which he stated, he had proved to be arsenic. I also examined it and corroborated his statement. Dr Provost afterwards gave me a small ball of grease covered on the outside with dust, this was cut into two by Dr. Migneault, and contained a white powder which was proved to be strychnine. From these analyses, I concluded that the deceased swallowed strychnine before his death and lived long enough afterwards to allow the strychnine to be absorbed into the blood, and to circulate in the system, and to be carried to the liver and excreted in the bile, these are my conclusions.

Cross-questioned.—I have not the sample of strychnine here that was found in the pellet of grease. The small glass capsule here produced appears to be the same that I used, but as I have not had charge of it I can not swear it is the same. The analyses were conducted with new apparatus brought from Montreal by me. The analysis of Mrs. Dove's body was not made in my presence. I proceeded at once to the analysis after receiving the viscera from Dr. Provost,

the process was continued without interruption to the end, it was about half past ten a.m., when I commenced and I finished before sun down. I speak about my process on the stomach, I think I examined the gall bladder the following day. I left everything with Dr. Provost except my apparatus. I did not make any physiological test of the contents of the stomach, except by tasting it, and I then found it bitter. I would have done so, but at this season of the year it is impossible to obtain a frog. The yellow substance on the glass capsule produced is organic matter. It takes about twenty seconds to pass strychnine from the stomach to the urine and I think about the same time to absorb and carry it to the gall bladder. I have never seen a case of idiopathic tetanus, but I have seen several cases of traumatic tetanus. Whilst the trial of Palmer was going on, Mr. Rodgers and myself had not yet completed the process which we discovered for the detection of strychnine, it was only completed by us after he had given his evidence at that trial. It is the series of colours, blue, violet, purple, and red, which prove the presence of strychnine. I have examined more than 200 human bodies and never before met with the same series of colours. I have often obtained strychnine from the bodies of animals, but have never before had the opportunity in the human subject. I have discovered it in the urine of persons taking it medicinally, I have in these cases found the same series of colours. In the trial of Palmer, Dr. Taylor asserted that the presence of strychnine could not assuredly be detected. It was in consequence of this statement that Mr. Rodgers and myself set to work to discover a process by which it could always be detected, and the result of these experiments was the discovery of the process, I have described. Although there are persons who deny that the colour test will prove the presence of strychnine, there are none who deny, that when the series of colours are produced under these circumstances, that they are not evidence of strychnine. I consider that it is a point undisputed in medicine, that this series of colours thus produced is a certain indication of the presence of strychnine. Where arsenic has been absorbed in the body you may discover all that has not been eliminated, arsenic is eliminated like strychnine. As a general rule nature tries to get rid of poisons as soon as possible.

Re-examined:—When Dr. Taylor at the trial of Palmer, said that other substances could produce the same colours, it only showed that he did not know what he was talking about, as these colours are not produced by other substances under the same circumstances.

This closed the case for the crown.

Note.—We will give the medical testimony taken on the defence in the next number of the journal.

It is with sincere pleasure we announce that our worthy old friend and fellow-student, George Duncan Gibb, A.M., M.D., L.L.D., has succeeded to the baronetcy of Gibb, of Falkland Fife. Sir George D. Gibb is at present physician to the Westminster Hospital, and lecturer on Forensic Medicine. There has just issued from the London press a second edition of his work on the Laryngoscope.

CANADA

MEDICAL JOURNAL.

ORIGINAL COMMUNICATIONS.

Lectures on Joint Diseases.—By Louis Bauer, M.D., M.R.C.S., England.

III.

Clinical Character of Joint Diseases.

(*Continuation from page* 440.)

The division of joint diseases into acute and chronic forms, is rather inappropriate, because artificial. It is apt to confound the character of the affection, and has no practical value in any respect. Whether the duration of the malady, or the violence of the symptoms is the principle of division we shall find neither to be tenable.

Almost every joint disease assumes *a protracted course*, and is thus essentially *chronic*. But few exceptions can be adduced to this rule. Rheumatic synovitis may be of short duration, and characterized by violent symptoms, but joints thus affected will require months to recover their normal status. On the other hand, we observe periods of acuity, in the most chronic and protracted joint diseases, which may challenge the most acute forms known.

I suggest, therefore to drop a clinical dogmatism, worthless to the experienced surgeon, and confusing to the novice.

The symptoms by which *synovitis* is characterized, materially vary, both, in duration and intensity. We need scarcely adduce the general symptoms of this disease, having already alluded to them on a prior occasion.

The chief, and pathognomonic phenomenon, is *effusion within the articular cavity*, and rapid change in the contours of the joint. From the physiological character of the structure, effusion, should, a priori, be expected, as clinical observation substantiates it.

To speak of a *dry joint* in these affections is an absurdity. The most insignificant irritation of the synovial lining, is attended with *copious secretion* of a fluid, with the peculiarities of synovia. The higher grades may not exhibit the same quantity of morbid secretion, but enough to give definite fluctuation. The liquid is of a more plastic nature, contains blood corpuscles, flakes of fibrin, fat globules and epithelium and becomes early contaminated by the organized elements of pus. To a certain extent the composition of the synovial fluid may still be recognized by the abundance of alkalies and the soapy feel.

In the highest grade of synovitis, the synovial lining, is as you are aware, converted into a pyogenic membrane, and presents the structure of granulations, as stated in the preceding section of our discourse. Under all these conditions, there is more or less morbid effusion.

The dryness of articulations cannot be denied, but it is noticed in conditions of a different character, and independent of inflammatory affections of the synovial lining. Thus, for instance, it complicates progressive deformative arthritis, which originates in the articular faces of the bones and though the synovial membrane may gradually be compromised, it is affected in such a manner as to destroy its character as a secreting structure.

In white swelling, the synovial membrane sometimes presents the peculiarity of dryness, but from anatomical changes of a pulpy character, not the result of direct inflammation.

In pure synovitis we never observe consecutive intumescence, infiltration, or hardening of the surrounding tissues, and never to such an extent as we find it in diseases of the periosteum, and the osseous structure, unless indeed the latter have become involved.

In the more active forms, there is intense pain within the whole joint, with consecutive febrile excitement; but reflex pains are moderate, and the spastic oscillations never very intense. In the lower grades of synovitis (Hydrarthrosis), these symptoms are entirely wanting, and the patient suffers scarcely any other inconvenience, than the effusion within the joint would naturally occasion.

The affections of the periosteum and of the epiphyses, are attended by a widely different group of symptoms. The beginning of these diseases is *very insidious*, and their development so slow as to require months to assume a noticeable form. But little pain attends the initiatory period. The whole trouble marks itself *as weakness* of the limb, dryness and *stiffness* of the joint, with inability to use the extremity in the morning. For a time the contours of the joint suffer no change; and if there be any fulness at all, it is more generally diffused, and extends beyond the

limits of the articulation. There is no discoloration of the integuments, though there is frequently that *waxy whiteness*, the result of œdema; whence the term " white swelling." The latter is often the first symptom which attracts attention. Though the patient may have the sensation of heat in the affected parts, it is not *objective* either to the hand or thermometer. The patient may gradually experience some difficulty in using the articulation to the fullest extent, feel induced to spare the extremity in locomotion, and thus favor certain positions as a source of greater comfort; malposition is superadded only at a later period.

The *advance of the disease* is marked by progressive swelling of the periarticular structures: the contours of the joint disappear, not from effusion within the articular cavity, but from infiltration of the surroundings and therefore no fluctuation can be discerned.

Contemporaneous with the enlargement of the articulation, the original feeling of soreness, increases to aching pain, being augmented by pressure and locomotion; the rest becomes disturbed by reflex pains, and the limb forced into a position over which the patient loses all control. Every attempt to alter the same is attended with aggravated suffering.

When the swelling and firmness of the soft parts still more increase, then the pain assumes a torturing character. The limb attenuates and becomes cooler, whilst the swelling shows but a moderate addition of temperature.

In viewing the affected extremity, the contrast between *the waste* of the limb, and the *general enlargement* of the articulation, with its numerous distended veins, is strongly marked, and it is this form of articular disease, which in times past was designated as *fungus articulorum, tumor albus, and white swelling*. It was thought to be of malignant growth, and amputation its only remedy.

Thanks to the progress of pathological anatomy and the material aid of the microscope, this error of our ancestors has been effectually dispelled.

Now-a-days, white swelling has been recognised as an affection of the articular ends of bones, and their respective periosteum; with subsequent periarticular infiltrations of seroplastic material, with its attending organization into fibroplastic cells, fibrous structure, fat, &c. And surgery offers the means of relief as long as the pathological changes are susceptible of reduction.

The knee joint is most frequently visited with this disease, and it is there one can best study its different phases.

On a former occasion I have assigned the reasons why this malady

attacks the knee joint more frequently than any other, and likewise why the disease is more frequently observed in childhood than in adult age: and therefore need not recur to that subject.

I shall now confine my remarks to the discussion of some features that characterize the process under consideration.

One of these points is the extraordinary slow advance of the disease. Some authors think that a low grade of nutrition of the structures primarily involved, offers an acceptable explanation. On close reflection we shall find this view inadmissable, and contradictory to analogy. Nutrition in childhood is more exuberant than at any later period. In the former, maintenance is not the only object of the nutritive process; it is enhanced by growth and developement, demanding more ready supply, and meeting with the most elastic condition of the vascular carriers of that supply. In these advantages the infantile skeleton participates to a higher degree than the other systems of the organism.

Hence from a physiological point of view, we have to reject the advanced theory.

In questioning analogy, we notice facts which demonstrate beyond a shadow of doubt, the prolific character of nutrition in the osseous system of children. Fractures consolidate more rapidly with them than with adults; artificial joints are scarcely ever observed during the period of evolution; if periostitis has laid bare the bone of a child, exfoliation rapidly ensues, and sequestra form much more quickly than at a later period. These facts coincide with the experiments of Flourent and Wagner, and dispose effectually of the before mentioned hypothesis.

In all those cases of white swelling, that I have had the opportunity of anatomically investigating, and they have been numerous, I have observed that there is always, in one or the other condyle, an insular disintegration of the cancellated structure, in which sometimes a small sequestrum is imbedded. Under the microscope scarcely any trace of the vanquished structure can be discerned. The chief element is fat. But in the neighbourhood of this pathological focus, hyperaemia, traces of fungoid granulations, and osteoporosis are noticed. This condition explains satisfactorily, the proximate cause of the pathological changes inconsistent with the active process of ostitis. In some rare instances, however, the healthy portion of the bone surrounds the disintegrated isle with a sclerotic capsule, by which the affected portion becomes, as it were, isolated and rendered innocuous, in a similar manner as foreign bodies encapsule. This pathological condition may not cover all cases which pass under the name of *tumor albus*, but certainly this is the most prevalent.

There is a specimen in my collection, of the lower third of a femur of a young girl not exceeding fifteen years of age. She was admitted to the Brooklyn Medical and Surgical Institute, with all the symptoms of white swelling, comprising the articulation and peri-articular structures; the swelling however likewise involved a portion of the femur. The local disturbances were as intense as were the nocturnal pains, and the spasms of the flexor muscles. The knee was of course drawn to a right angle.

From the history of the case, and the clinical character of the disease, *circumscribed osteomyelitis*, with its termination in abscess, was diagnosed and in view of her reduced constitution, and the copious discharge of matter from the neighbourhood of the joint, amputation was deemed expedient.

The condition of the specimen fully confirmed the diagnosis. There is a large pyogenic cavity at the lower end of the femur, which opens at the posterior aspect of the bone, by an irregular aperture not less than an inch and a half in diameter; in the circumference of which, the periosteum is raised up, and its internal surface covered with new bone. The epiphysis is somewhat loosened from its attachment, and in time would have become separated.

The original focus of the diesease had been obviously limited to the cancellated structure, and rather remote from the joint, but its consecutive effects had extended over the joint, and involved its soft surroundings. There may be still *other exceptions* from the anatomical prototype, but their numerical proportions scarcely affect the statistics.

The adherents of the tubercular theory, may rejoice at this pathological admission of mine, of those insular and circumscribed pathological foci, which they may claim as *bona fide* evidence of tubercular deposit.

I hold however, that pathological detritus, limited to an isolated place, cannot in the eyes of competent judges, pass as tubercle.

If the desease is permitted to spread, it eventuates in perforation of the articular cavity; the formation of external abscesses and fistulous tracts, and the more obstacles the discharge has, the more periosteum will be destroyed, and the bone corroded on its surface.

The protracted development of these phases extends over many months, and often additional injuries are required to accomplish so extensive disintegration.

A lull of all symptoms, is often observed in the like cases, to be followed by new exacerbations. A goodly number recover spontaneously, or by appropriate treatment. These recoveries happen not rarely at the period of puberty, at which time the mode of nutrition of the epiphyses becomes perfected.

In analysing the gradual development of this disease, its preceding cause, (traumatic injuries); the comparative moderate effects upon the integrity of the adjacent osseous structure; we find a more passive pathological condition, a direct necrobiosis of the affected structure, more from want of proper maintenance, than from active and progressive disease. When active symptoms subsequently set in, they are the efforts of the *vis medicatrix naturæ* to eliminate the detritus foreign to the integrity of the bone. Frequently the detritus becomes absorbed, or pervaded with calcareous elements, and thus recovery is attained.

This gradual change of the osseous structure and annihilation of its nervous and vascular endowments, though limited in extent, renders it intelligible why so little pain is experienced by the patient, during the first disintegrating period of the disease. The intense pain that is at a later period superinduced, is evidently connected with the peripheral and active process of osteitis arising in the circumference of the focus. The original disease has nothing to do with it.

The appearance of nocturnal pain constitutes a serious complication and indicates the commencement of suppuration.

The *contraction* of the biceps muscle is quite common and the result of reflected spasm. The leg is thus held in an angular position to the thigh, and most usually *rotated on its longitudinal axis*, with eversion of the toes. This position goes *pari passu*, with an anatomical derangement of the joint itself. The patella rides upon the external condyle of the femur, and is generally adherent; the internal condyle of the tibia projects in front, whilst the external one recedes.

The contraction of the biceps is exclusively accountable for this malposition, for at a certain angle it acts as a rotator, when not *counteracted* by the simultaneous contraction of the internal hamstrings.

I have but lately exhibited to the New York Pathological Society a specimen of this kind, and the action of the biceps, is so undeniably demonstrated, that there is no more room for further speculation to account for the symptoms.

For a long time the mobility of the affected joint remains, if not impeded by the contraction, but when synovitis is superinduced to the original affection, the joint may become obliterated by fibrous adhesions between the articular faces, which may still more impede the mobility, but rarely are there osteophytes passing from one bone to the other, depriving the joint of all vestige of motion. True bony anchylosis is of very rare occurrence, and much more the consequence of penetrating wounds of the joint, and high graded synovitis, than of this form of disease.

Whether the disease originates in the synovial membrane, in the crucial ligaments, in the periosteum, or the epiphysis of the joint, the symptoms apertaining to each of them respectively, will be so blended in their advanced course, as to render diagnostic discrimination almost impossible, leaving the previous history as the only guide.

The pathological conditions of joint diseases vary but little, when suppuration, burrowing of pus, has been going on, and the bones have been disintegrated for any length of time; the symptoms attending those conditions are almost uniform in all such cases. The competent and experienced surgeon may yet recognize the patho-genesis of the original disease, but novices rarely realize differences so indistinct and subtle. Thus. in caries of the joint emanating from synovitis, the articular surfaces are more generally denuded of their respective cartilaginous coverings, but the osteo-porosis does not much exceed the surface; the crucial ligaments are but partially destroyed; the semilunar cartilages partly disintegrated, discolored, and mostly detached. On moving the articulation, crepitus is discernible. If, however, the bone has been the starting point of the disease, the caries of the articular surface is generally restricted to the originally affected locality; and the cartilage is there and thereabout disintegrated. The crucial ligaments are mostly destroyed *in toto*, and crepitus is less distinct.

The clinical character of *hip disease* will now demand attention, on account of some peculiarities in its manifestations. Morbus coxarius is about as good a term as could be chosen and certainly more appropriate than "coxalgia" which applies solely to the pain of the affection.

The first stage of this lesion materially conforms with the same stage of the affections of other joints. The only symptom requiring special mention, is limping. It is most noticeable in the morning, less during the day, and least towards evening; most conspicuous after great exertion, and sometimes absent after a day of complete rest. The duration of this period is variable; repeated accidents and the continuous use of the affected extremity may shorten, and constant rest prolong it.

The so characteristic pain at the knee, may already make its appearance at this stage, but if so, there will be likewise indications of retracted muscles, with which this symptom appears conjointly. This pain has often confounded the diagnosis of the less experienced, without any need; for you may press and squeeze the knee joint as you please, without the slightest increase of that pain, whereas the pressure upon, and movement of the hip joint will aggravate it. The progress of the malady may, at this juncture be arrested, and the patient relieved from further trouble.

The second Stage is characterized by elongation, abduction, eversion and slight flexion of the affected limb at the hip, with lowering of the pelvis, flattening of the gluteal region, sinking of the gluteal fold, and an inclination of the internatal fissure, at, and towards the affected side. The mobility of the joint may either be impeded, or entirely suspended. Adduction is generally impossible.

For the purpose of locomotion, the patient brings the lumbar portion of the spine and the other hip joint into play; thereby easily deceiving the inexperienced observer. In the erect posture the spine exhibits a single curve, of which the convexity corresponds with the seat of trouble. The superior spinous process of the ilium, is depressed when compared with that of the other side, and the healthy member is adducted in proportion to the malposition of its afflicted fellow. In walking, the patient places the latter forward and outward, and drags the other limb after it in a rather diagonal direction. All these symptoms more or less complete, can be ascertained by undressing the patient; dropping a plummet line from the occipital protuberance, walking, and by careful examination in the horizontal posture. If the patient sits down in such a manner as to accommodate the affected member, both pelvis and spine assume normal relations, thus proving that the elongation of the limb does not depend on the lateral declivity of the pelvis, as *Gross asserts.

The chief or proximate cause of the entire group of symptoms rests with the immobility of the joint and the fixed adducted position of the extremity. In imitating them we produce the very same effect.

There can be no doubt that the elongation is but apparent, and not real, as the late professor Rust of Berlin, claims. Nor is there any enlargement of the head of the femur, from either tuberculosis or other causes, to which he ascribes the actual elongation. The sole source of the symptom is hydraulic pressure from existing intra-articular effusions; I was led to this view from the analogous position of the femur and the immobility of the joint produced by experimental injection. Acting on this supposition, I have succeeded in substantiating the correctness of my opinion, by paracenteses of the articular cavity. The removal of the intra-articular fluid was followed immediately by returning mobility and the correction of the malposition. This point is consequently settled by demonstrable evidence.

With the apparent elongation of the limb, the structural pain gradually increases, and the reflex symptoms rapidly rise to an intense degree. The nocturnal pains, in this period are more violent and torturing than

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*Gross' "Practical Observations" Philadelphia 1859.

at any later, and for obvious reasons. Whilst the extremity is immovably fixed by hydraulic pressure, the adductor muscles are nightly agitated by reflected spasms, and kept on the stretch. The limb becomes attenuated and exhibits marked disproportion with its fellow, the constitution, rest, appetite, suffer gravely, and reduce the patient in weight and appearance. The effusion may still be of a plastic and organizable character; sero-purulent, or exclusively pus: may be free from, or contaminated with structural detritus, benign or destructive. Its composition will naturally determine the issue of the case. If the effusion be mild, plastic, benign, free from deleterious admixture, its partial absorption and final organization into fibrous structure may take place and thus terminate the malady. Or its quantity may lead to a disruption of the capsular ligament, and the escape of the intra-articular effusion into the surroundings of the joint, and there become organised and innocuous. Through similar changes the sero-purulent effusion may pass with the same result.

But if the articular contents are of a destructive character, they may, by macerating and corroding the acetabulum pass into the pelvic cavity through the cotyloid notch, or through the capsular ligament, and will invariably give rise to the formation of abscess, corresponding in locality with the place of perforation.

In the moment the perforation is effected a new series of symptoms appears, and with which the third stage of the disease is ushered in.

The third stage is distinguished by diametrically opposite symptoms. The contrast of the two stages can best be realized by placing them in juxtaposition.

Second stage.	*Third stage.*
Affected limb.	Affected limb.
Apparently elongated.	Apparently shortened.
Abducted.	Adducted.
Flexed at hip and knee.	Flexed at hip.
Toes everted.	Toes inverted.
Foot fully on the ground	Ball of toes only.
Healthy limb adducted	Abducted.
Pelvis lowered.	Tilted up.
Pelvis projects forward.	Backward.
Pelvis angle of inclination acute.	Almost rectangular.
Nates flattened.	Full and convex.
Gluteal fold lowered.	Elevated.
Internatal fissure inclined to affected side.	Inclined towards the opposite side.
Spine curved on the affected side	Curved towards the other side.
Nocturnal pain very intense.	Greatly diminished.

It will be seen that the third stage is characterised by unmistakeable clinical manifestations, and by so peculiar a gait of the patient, as to be recognised at a distance.

The shortening, adduction, and inversion of the limb, conjointly with the rotundity of the gluteal space, strongly convey the impression of posterior superior dislocation of the femur. This similarity of the two may have led Rust to presume their identity, and ascribe to the action of the contracted muscles the cause of *spontaneous dislocation.* The morbid enlargement of the caput femoris, said to exist (at the second stage) lent a plausible argument to this hypothesis. What was more simple and transparent, than that the head of the femur partially expelled from the acetabulum by its disproportionate size, should leave it entirely and follow the undue traction of the muscles. This hypothesis of the renowned German surgeon prevailed among the profession; spontaneous dislocation was henceforth a settled fact, against which but heterodoxy could raise its voice. Buehring, of Berlin, if I do not mistake, was the first who took issue with Rust's theory, and attempted to reduce the acknowledged similarity of symptoms to causes widely different from those propounded. In this effort, he derived material assistance from the advancement of pathological anatomy. The question once opened has received a rational solution. At this present moment there are few well informed surgeons who recognize spontaneous dislocation. Nelaton has informed us of a good method to decide the relative position of the femur to the acetabulum. In drawing a line from the anterior superior spinous process of the ilium, to the tuberosity of the ischium, it passes on its way, from one point to the other, the apex of the large trochanter, in the normal position of the femur. It crosses the trochanter more or less below the apex in dislocation.

In applying this test in the third stage of morbus coxarius, you will mostly find the normal relations, or so insignificant difference as to preclude all possibility of dislocation. Irrespective to this clinical fact the morbid condition of these points contradict the assertion of Rust in toto. It might rather be said that the acetabulum becomes dislocated, since we often find it extending up, and backward in which direction the femur fellows, but true dislocations belong to the rarest occurrences. I have searched in this respect the anatomical museums, on this, and the other side of the Atlantic, without having found more than about a dozen specimens, exhibiting the conjoined evidences of hip disease and dislocation. In this statement I am borne out by other enquirers. It follows therefore, that dislocation is but a rare incident in hip disease, indeed much more so, than might be rationally expected, considering the

actual state of the joint in many instances. If dislocation is practicable in a healthy articulation, how much more predisposed must the latter be, when the acetabulum is denuded and enlarged, the round ligament totally destroyed, the head of the femur *diminished* in size, the cotyloid cartilage more or less disintegrated, the capsular ligament broken through &c.; which all tend to facilitate the displacement of the femur. It is thus evident, that the slightest appreciable injury should suffice to bring about a dislocation, but its spontaneity cannot be conceived, and must therefore be denied. On the other hand, it must be borne in mind that the joint being more or less tender, is well taken care of by the patient and protected against incidental injuries.

One of these means is the play of all muscles by voluntary effort to keep the joint at rest, and thus dislocations are prevented, which otherwise might seem inevitable. Wherever dislocations take place, there can be no doubt as to their being the result of some injury or other, however trifling. That much I can at least assure, that I never myself have had the opportunity of observing a single case of indisputable dislocation consequent upon morbus coxarius, and I have had my finger in the hip joint too often to be deceived. If you examine a patient so afflicted, with the aid of anæsthetics, extending the affected limb, whilst at the same time exercising counter extension by placing your foot against the pelvis, you will notice a certain amount of mobility of the joint, but the absolute impossibility of abducting it. In searching for the cause, a firm and unyielding contraction of the adductor muscles will be found, over which the anæsthetics seem to have no influence whatsoever. It is thus in the third as in the second stage, the malposition of the limb is produced by a single cause, and the rest of the symptoms follow as physical necessities. Now, for instance, let us presume the femur held in undue position of adduction and flexion, and the patient attempt to walk, he would yield the pelvis as much as possible for the purpose of relieving the tension of the contracted muscles. The first thing he does it to rotate the pelvis in its transverse diameter, thus approximating the anterior superior spinous process of the ilium, to the insertion of the tensor vaginae femoris. This accounts for the enhanced angle of inclination with the horizon. By turning the pelvis on its axis at the lumbar articulations, the patient favors the former object. If the pelvis remained quite horizontal and the extremity of the healthy side rectangular to the former, the affected limb would necessarily cross its fellow, and locomotion would thus be rendered impracticable. Hence the affected side of the pelvis is tilted up in proportion to the adduction of the affected extremity, the healthy member is thrown out, (abducted) and paral-

lelism is thus achieved. If the pelvis is thus out of position, the spine and shoulders have to adapt themselves to the static changes.

In compounding the effects of these changes in the position of pelvis and femur, we can almost to a nicety, ascertain the amount of apparent shortening, without regard to the so called spontaneous dislocation. The longitudinal rotation of the pelvis will raise the extremity as much as an inch, the flexion of the femur upon the pelvis, another inch, and the obliquity of the pelvis from one to three inches. Thus the limb may be shortened in the aggregate, from three to five inches, an amount never to be produced by traumatic dislocation of the femur upon the ilium.

Most cases of morbus coxarius terminate with the third stage; but comparatively a few advance to the fourth and last stage of the disease, which is a combination of the symptoms of the third, with those of caries, abscesses, fistulous openings and tracts, in the neighbourhood of the joint, local pain, arising from such sources, and hectic fever.

Thus it will be seen that hip disease is characterized more than any other, by a certain immutable regularity and chronological succession of symptoms, which, in themselves, furnish the strongest ground for differential diagnosis. Though the first stage may escape the vigilance of the professional attendant, the second will inevitably decide his appreciation of the growing trouble. The third stage is invariably preceded by the second, and the fourth by the former stages. This, at least, has been my observation in a large number of cases, and I entertain no doubt that it is substantially the same with other accurate observers. The exceptions that may be adduced apertain to cases partly not hip disease at all, partly hip disease of a consecutive nature, and consequently blended with other pathological conditions.

Periostitis in the neighbourhood of the hip joint often produces similarities of hip disease of a most striking character. We may find in connection with it all the symptoms enumerated under the third stage of morbus coxarius, but this difference will always be manifest: that the symptoms of the second stage never preceded that condition. If the joint is not secondarily implicated in those cases there will be a freer mobility of the same, and no crepitus; whilst on the other hand, the femur is enlarged and tender.

Sometimes we meet with malposition of the femur in consequence of Potts' disease, and periostitis of the spine, which may give rise to an erroneous diagnosis. The history of morbus coxarius and affections of the spine is so differentially marked that the mistake may be easily corrected. Eventually, the application of chloroform will suffice to overcome the muscular retractions of the latter, and prove the hip joint to be intact.

We owe to Erichsen's careful investigations, our knowledge of the suppurative affection of the sacro-iliac junction, but the symptoms adduced by that author are so widely different from those of hip disease, that they hardly can be confounded. Eventually the careful examination of the corresponding hip joint must necessarily settle all doubts.

Chemical Selections. By E. S. BLACKWELL, Esquire, Montreal.

A NEW HYDROCARBON, (C=12). C. FRIEDEL.

The existence of silicium ethyl, containing one atom of silicium and four molecules of ethyl, and having the functions of a saturated hydrocarbon, pointed to an analogous compound in which silicium should be replaced by carbon, which carbon would therefore be saturated by carbon alone. In the same manner as primary, secondary, and tertiary alcohols contain each of them one carbon atom, the four bonds of which are partly saturated respectively by one, two, and three bonds of other carbon atoms, and as these different alcohols may be referred to hydrocarbons of analogous constitution. So it may be presumed that a quaternary hydrocarbon may exist, in which one carbon atom will be saturated exclusively by other four carbon atoms.

In methylchloracetol, resulting from the action of phosphoric pentachloride on acetone, it is most probable that one carbon atom is united with two carbon atoms and two chlorine atoms; if, therefore, the two chlorine atoms be replaced by two hydrocarbon radicals, the quarternary hydrocarbon sought for will be obtained.

Zinc-ethyl, heated with methyl chloracetol, gives rise to enormous quantities of gas; probably propylen and ethylen. The greater part of the residue, when freed from excess of zinc-ethyl and further purified, boils between 86° and 90°, and is hydride of heptyl $C_7 H_{16}$, or as it may be called from the mode of its formation, carbod-imethyldiethyl. (Bull. Soc. Cheini Paris, 1867, 65.)

Pseudomorphine. (C=6, O=8). O. HESSE.

Pelletier who discovered pseudomorphine, 30 years ago, from the small quantity he obtained, was unable to give precise directions for its preparation, and naturally enough, doubt fell on its identity. Hesse finds that it accompanies morphine in Gregory's method, and may be separated from that body by adding excess of ammonia to the alcoholic solution of both alkaloids; the morphine is precipitated, the other remains in solution. Pseudo-morphine is tasteless, insoluble in water, alcohol, ether

chloroform, carbonic bisulphide, and dilute sulphuric acid; easily soluble in potash, soda, or lime solutions, and in alcoholic solution of ammonia, sparingly so in aqueous solution of ammonia; it does not neutralise the acid reaction of even the smallest quantity of chlorhydric acid; it dissolves in concentrated sulphuric acid with an olive green; in concentrated nitric acid with an intense orange red; in ferric chloride with a blue colour. At 120° it loses 2 eq. water of crystallization; at higher temperatures it turns yellow and decomposes without melting. Its formula is C_{34} H_{19} NO_8 containing therefore O_2 more than morphine, but it does not result from an oxidation undergone by morphine in its preparations; it may, however, be identical with Schützenberger's oxymorphine obtained by acting on morphine with potassic nitrite. Platino and auro-pseudo morphinic chlorides are amorphous; the sulphate is very like calcic sulphate. The oxalate, tartrate, nitrate, chromate, chloride, and iodide are described; they are sparingly soluble; the crystalline precipitate with mercuric chloride is very little soluble in chlorhydric acid. (Ann. Chem. Pham. cxli. 87).

REVIEWS AND NOTICES OF BOOKS.

The Laryngoscope in Diseases of the Throat, with a chapter on Rhinoscopy. A Manual for the Student and Practitioner. By George Duncan Gibb, M.D., LL.D., M.R.C.P., Assistant Physician and Lecturer on Forensic Medicine, Westminster Hospital, &c., &c. Second Edition. Re-written and Enlarged, 8vo. pp. 158. London: John Churchill & Sons, New Burlington Street, 1867.

It will be perceived that this is the second edition of a work from the pen of Dr. Gibb, considerably enlarged and with the addition of numerous wood cuts. It evinces steady persevering research, and is a most valuable addition to the literature on this important subject. Dr. Gibb, more recently, Sir G. D. Gibb, Bart., has been for years an authority on diseases of the throat, and occupies deservedly a world-wide reputation; his experience has been very great, and in this work the author gives to the world the result of that experience. This work consists of twelve chapters.

The first chapter comprises a most interesting historical sketch of the laryngoscope, from which we learn that attempts had been made by the earlier writers on medicine to obtain a view of the internal cavities of the body by various mechanical contrivances. About the commencement of the present century, Philip Bozzini, of Weimar, produced a work upon

an apparatus for conducting light to the internal cavities and spaces of the human body.

"His speculum, consisted of a polished metal tube of silver or tin for the various canals of the body, a certain size being reserved for the throat. This tube was divided by a vertical septum or partition; and at its curved extremity were two small mirrors, directed upwards or downwards according to the situation of the part to be examined. When introduced, the light was reflected into the mouth by means of a tin lantern, in the form of a vase-shaped box, in the opposite sides of which were circular openings—a larger and a smaller—to the larger one of which was fastened the speculum, and the smaller an eye-piece. In the centre of the lamp was a receptacle for a candle, which, when lit, allowed the flame just to reach the level of the two openings in the lamp, parallel to one another and in a line with the tube. On applying the eye to the eye-piece, the reflected image was seen in one of the mirrors at the end of the speculum, and the other mirror conveyed the light, both passing through the different channels divided by the vertical septum."

This apparatus suggested to Dr. Cruise, of Dublin, the principles of the endoscope which may be regarded as an improvement on the instrument of Bozzini.

But it was Dr. Benjamin Guy Babington, in 1827, who first conceived the idea of using a mirror, very similar to the instrument of the present day, as we read in the report of the Hunterian society published in the *Medical Gazette*, 28 March, 1829.

"Dr. Benjamin Babington submitted to the meeting an ingenious instrument for the examination of parts within the fauces not admitting of inspection by the unaided sight. It consisted of an oblong piece of looking-glass set in silver wire, with a long shank. The reflecting portion is placed against the palate, whilst the tongue is held down by a spatula, when the epiglottis and upper part of the larynx become visible in the glass. A strong light is required, and the instrument should be dipped in water so as to have a film of the fluid upon it when used, or the halitus of the breath renders it cloudy. The doctor proposed to call it the glottiscope."

Other workers in the field continued from this date to use mirrors of various shapes, the author himself had been in the habit of employing a steel mirror for years before the present instrument was introduced by Czermak about the year 1860. Chapters two, three, and four, are interesting and instructive, the subjects being a description of the laryngoscope, the method of using it and the philosophy of the instrument. These chapters contain many useful hints of great practical value. In

chapter five we have the "revelations of the laryngoscope," we have also chapters on "auto-laryngoscopy;" aids to the laryngoscope; topical medication of the larynx through the laryngoscope; galvanism applied to the larynx; operation on the larynx; useful hints and general remarks on the laryngoscope, &c. There is also a chapter on rhynoscopy, its history, application, &c., together with a short statement of a few cases which have come under the observation of the author. The work is illustrated throughout, and here will be found representations of instruments which the author recommends, and which he is in the habit of using in suitable cases. This little work is eminently practical in its bearing, and all who desire to follow this department of the healing art should become familiar with its teaching.

PERISCOPIC DEPARTMENT.

Surgery.

IDIOPATHIC GLOSSITIS.

Proceedings of Surgical Society of Ireland, February 15.

Mr. Croly stated—At the meeting of the Surgical Society held on the 18th of January, I had the honour of reading a communication on acute glossitis, illustrated by seven cases, which occurred in my own practice. By a curious coincidence, I have had (since bringing the subject under the Society's notice) another case of idiopathic inflammation of the tongue under my care in the City of Dublin Hospital. The patient was seen by most of my colleagues, and also by several medical friends. I shall, as briefly as possible, detail the history of the case, which was one of unusual severity:

About eight o'clock on the night on the 23rd January, I received a letter from Mr. David Hadden (one of the resident pupils in the hospital), requesting me to visit, as quickly as possible, a girl just admitted, who was suffering from urgent dyspnœa and symptoms of glossitis.

On arriving at the hospital I found a girl sitting up in bed, suffering from alarming dyspnœa. Her tongue filled the entire cavity of her mouth, and its convexity almost touched the palate. Saliva poured copiously from her mouth; her head was thrown back; her countenance was anxious, and she breathed entirely through the nostrils; pulse 120 in the minute. She could not speak. I ascertained, on examination, that the region of the tonsils of each side was free from swelling, and

not tender on pressure. The submaxillary region, however, was enlarged, and very sensitive to the touch. The girl could not bear any pressure on the apex of her tongue, which protruded between the teeth, and was covered with a white exudation. The breath was fœtid. There was no tenderness of the gums, and the patient had not taken mercury or any other medicine lately.

The girl's mother states she was in good health until the 17th of January, when she caught cold by taking off her boots and walking in the snow. She complained of *shiverings, headache, thirst, and soreness of the tongue.* She was menstruating at the time, and the discharge was checked.

It was to me quite evident that she was suffering from acute glossitis of a very severe form, and from the aggravated symptoms I felt most anxious about her. I lost no time in introducing a sharp-pointed curved bistoury into the mouth, keeping its blade flat towards the tongue until its point reached the base of the organ, and then, having, turned the edge of the knife towards the tongue, made a rapid, deep longitudinal incision between the raphe and edge, and parallel to the septum. I quickly changed the bistoury to the other side, and made a similar free incision. The hæmorrhage was copious.

The relief to the breathing was almost immediate. I directed three leeches to be applied to each submaxillary region, and a hot poultice put on when the leeches came off. The patient tried to swallow some milk, but could not succeed. She took ice in small pieces, and enjoyed it very much. A turpentine enema was administered, as the bowels had not acted since the commencement of the attack.

24th. Mr. Hadden's note says: Patient had a restless night; she swallowed a little wine-and-water with difficulty, and continued the ice; bowels were freely moved; countenance less distressed, and the breathing not so difficult.

Six P.M. On visiting the patient I found her symptoms not as much relieved as I had anticipated; and as the tongue was still very much inflamed, I made incisions again into the organ in the same situation as the previous ones. A large quantity of blood escaped, and as she could not swallow, I ordered nutritive injections of beef-tea and whisky to be administered every third hour.

Eleven P.M. Breathing much less difficult; the girl could speak a little; her voice, heard for the first time since admission, was peculiar, and the speech "thick" and indicative of disease. Pulse 112, and stronger.

25th. Patient slept tolerably well last night; she can swallow a little, and still enjoys the ice; nutritive injections continued.

26th. Pulse 100; saliva still flowing freely from the mouth.

27th. Tongue still much enlarged, and protrudes beyond the teeth; the patient cannot swallow enough of nourishment to keep up her strength. Ordered nutritive injections every hour.

28th. Pulse stronger; patient swallows a little iced milk; white exudation is separating from the tongue.

29th. The incisions, so far as they can be seen, are mere lines; the edges of the tongue are deeply indented from the teeth; the *hardness and enlargement consequent on the effusion of the lymph still remains.*

Mr. Croly proceeded to say that, on the last occasion when this subject was under discussion, he mentioned that the first case described by him coincided with those published by Dr. Fleming, where the disease commenced under the chin. In the next case half the tongue only was affected; the third case involved the whole tongue; the fourth case only half the tongue: the fifth case the entire tongue; and the last case arose from erysipelas. He (Mr. Croly) considered that the case which he brought before the Society that evening was a typical case of glossitis; and he was certain that if the tongue had not been cut freely and deeply, the trachea should have been opened to save the girl's life.

LECTURE ON THE ANATOMY AND SURGERY OF THE HUMAN FOOT.

Delivered at the Royal College of Surgeons of England in June, 1867,

By Henry Hancock, Esq., F.R.C.S., Surgeon to Charing-Cross Hospital, and Professor of Surgery in the Royal College of Surgeons.

Mr. President and Gentlemen,—Interesting and important as were the matters treated of in my last course of lectures, they formed but a comparatively small section of the surgery of the part to which they appertained—indeed, so many subjects of great value still remain to be studied that, even at the risk of appearing tedious, I am induced to devote the greater portion of this my present course to their consideration; and in this way, as far as my abilities permit, to lay before the profession a complete epitome of the surgery of this region of the body.

In accordance with this object I propose to-day to treat of an operation which, whether considered in relation to the mportance of the region in which it is performed or the amount of benefit it is destined to afford, has not met with that support to which it is fairly entitled. Whilst in England the shoulder, elbow, hip, knee, and other joints are freely excised, and, when offering a prospect of success, a surgeon would almost be

considered as deserving of censure who would neglect these operations for amputation, excision of the ankle-joint has for the most part been regarded with disfavour.

We may partly attribute this to the confused ideas entertained as to the exact nature of the operation by authors, who write upon that which they have never done, and which they do not understand; and who, consequently, mislead their readers by inexactness of detail, and by the heterogeneous mass of discordant cases which they have collected and described under the head of "Excision of the Ankle-joint," and which in reality have as little to do with this operation as they have with Syme's or Pirogoff's amputation.

A recent American author, for instance, professing to write upon excision of joints, includes the following operations in his table and description of excision of the ankle—viz., excision of the astragalus and of os calcis; removal of the end of the tibia; removal of the ends of the tibia and fibula with the astragalus and navicular; simple excision of the astragalus; of the ends of the tibia and fibula, the whole of the astragalus, part of the os calcis, and the three cuneiform bones; of the end of the tibia, the astragalus, scaphoid, and two cuneiform bones; excision of the astragalus and scaphoid; excision of the os calcis, astragalus, and cuboid.

Nor are these vague ideas entertained by this author only. Others who have written text-books for the guidance of students have published equally vague notions, thus perpetuating and adding to the obscurity they profess to dispel. Although Hippocrates is stated to have removed the lower ends of the tibia and fibula for compound dislocation, whilst Mr. Hey of Leeds performed the first authenticated operation of the kind as early as the year 1766, it was not until the year 1792 that the elder Moreau performed excision of the ankle-joint for disease, being the first occasion upon which this operation had been performed excepting for accident.

The case was that of the son of M. Lucot, inspector of gendarmerie, who met with a sprain, in the year 1791, which ended in extensive caries of the left ankle. After the lapse of a year there was a fistulous ulcer on each side of the joint, discharging sanious and fetid pus; and the probe being introduced through the openings, the articulating surfaces of the tibia and fibula, as well as the body of the astragalus, were felt to be bare. The foot and the lower part of the leg were swollen, and the patient could not bear his weight on the limb. On the 15th of April, 1792, Moreau excised the ankle-joint, removing the lower ends of the tibia and fibula, and the whole of the articulating surface of the astragalus, and a

great portion of its body, till he came down to what was sound. In six months the patient was able to bear his weight upon the foot. During the seventh month he used crutches; in the eighth he could walk with a stick; and by the end of the ninth he walked without any assistance whatever, and in such a way that he could do as he pleased.

Such are the particulars of this celebrated case; and it is interesting to read the description given by Moreau's son of the disfavour shown by the French surgeons, not only to this operation, but to resection of joints in general. In the year 1784 Mr. Parke's observations on cutting out the articulating ends of the bones of the elbow and knee-joints were translated and published in France by Professor Lassas, whose authority, observes Moreau, "one would have thought might have procured for them a favourable reception. They were received with astonishment; and so far were they from gaining credit, that in 1789 they had acquired so few supporters in the Academy of Surgery that some cases of a similar kind, presented to the Academy by the elder Moreau, were rejected, though they were of such a nature, and stated in a way that deserved a more favourable reception."' Nothing daunted, Moreau again addressed the Academy of Surgery, supporting his memoir by many facts. His essay, however, met with a most violent opposition. The Academy, as is too often the case, found it more convenient to deny than to examine these facts; and, instead of taking the trouble to assertain their reality, they answered in a way that forbade all future inquiry upon matters demanding the greatest attention. It is due to M. Pellaten to state that of all the then members of the Academy, he alone appears to have considered the subject worthy of attention.

The second operation on record was performed by Moreau, junr., in 1796. He preserved the lower end of the fibula, and consequently had great trouble in getting away the disease, being obliged to use the gouge freely. The recovery was not so satisfactory as could have been desired.

The third operation was by Mulder, in 1810. He at the same time removed five inches of the fibula.

In 1813 Champion is reported to have operated upon a woman, who afterwards frequently walked three leagues to be examined by Roux and others.

In England there was no example on record of excision of the *ankle-joint* for disease prior to February, 1851, when I performed the operation for the first time. Attempts have been made to deprive me of the merit of its introduction to British surgery, but I doubt not my ability to prove that if the term "excision of the ankle-joint" means the excision of those

parts only which enter into the formation of the joint, the credit is my own; but that if it means the removal of any amount of the foot, whether comprehended in the joint or not, that credit is more justly due to Liston, Wakley, Teale, and others.

The author of the work already alluded to says: "It does not appear, however, that after the above cases (those by the Moreaus) this operation was again attempted for disease until 1818, when it was undertaken by Mr. Liston, in Edinburgh. In April, 1830, it was performed in France by M. L. Champion; and in June of the same year, by M. Roux. In December, 1847, Mr. Thomas Wakley excised the os calcis and astragalus; and in March, 1850, the end of the fibula, with part of the astragalus. It appears, therefore, that the honour of first performing this operation in Great Britain belongs to Mr. Liston, and of reintroducing to Mr. Wakley rather than to Mr. Hancock, for whose excision of Feb. 17th, 1851, it has been claimed."

Moreau, as we have seen, performed his operation on the 15th of April, 1792. His proceedings were as follows:—He made a longitudinal incision, beginning at the inferior and posterior part of the malleolus externus, continuing it upwards from three to four inches. He then made another incision, transverse, which extended from the inferior end of the former incision to the edge of the tendon of the peroneus brevis. He made another longitudinal incision on the inside, which began at the inferior and posterior part of the malleolus internus, and extended from three to four inches along the internal border of the tibia. Then, by a third incision, which began at the lower end of the tibia, he cut the skin transversely till he came to the tendon of the tibialis anticus. He disengaged the fibula from the tendons, ligaments, and in general from everything by which, at its inferior extremity, it is held in its situation; he passed the handle of a scalpel under it, and with a chissel he cut it across above the ankle. Wishing to cut the tibia above the malleolus before he turned it out of the joint, he separated everything that adhered to it; and then, passing the handle of his scalpel between the posterior surface of the bone and the flesh, he introduced between the spine of the bone and the flesh before the bone the blade of a narrow saw, and cut the bone, sawing from before backward, which was a work of no small trouble. That being done, he turned the foot outward, and, making the piece of bone which he had cut off project, he detached it from the tarsus without difficulty. The astragalus being diseased, he removed the whole of its articulating surface, and a great part of its body, till he came down to what was sound. Now, contrast this with Mr. Liston's case, as described in the *Edinburgh Medical and Surgical Journal* of January, 1821. He removed the astragalus, scaphoid, and two cuneiform.

Again, contrast Moreau's operation with Mr. Wakley's original and celebrated proceeding as detailed in THE LANCET of April 12th, 1851, the first of those referred to, and performed on the 27th of December, 1847. I quote Mr. Wakley's own words:—"The diseased foot (the left) having been drawn forwards so as to be free of the table, I made an incision from malleolus to malleolus directly across the heel. A second incision was next carried along the edge of the sole, from the middle of the foot to a point opposite the astragalo-scaphoid articulation; and another, on the opposite side of the foot, from the vertical incision to the situation of the calcaneo-cuboidal joint. These latter incisions enabled me to make a flap about two inches in length from the integument of the sole. In the next place, a circular flap of integument was formed between the two malleoli posteriorly, the lower border of the flap reaching to the insertion of the tendo Achillis. This flap being turned upwards, the tendon was cut through, and the os calcis, having been disarticulated from the astragalus and the cuboid bones, was removed, together with the integument of the heel included between the two incisions. The lateral ligaments connecting the astragalus with the tibia and fibula were now divided, and the knife was carried into the joint on each side, extreme care being observed to avoid wounding the anterior tibial artery, which was in view. The astragalus was then detached from the soft parts in front of the joint and from its articulation with the scaphoid bone, and the malleoli were removed with the bone-nippers. The only artery requiring ligature was the posterior tibial."

Take, again, Mr. Wakley's second case, thus reported in THE LANCET of May, 1850:—"Mr. Wakley made a crucial incision directly over the outer malleolus, and having carefully dissected back the small triangular flaps, the whole of the diseased malleolar process of the fibula was now exposed, as well as the portion of the astragalus. Both these parts were evidently in a carious, partly in a necrosed state, and were excised principally by means of a gouge."

Although undertaken with the same object as that which actuated the elder Moreau—namely, to excise the ankle-joint solely, the operation which I performed, whilst attaining the same result, differed somewhat in certain details, which will be apparent as we proceed. Instead of making two incisions at right angles on either side of the joint, I commenced the operation with an incision behind, and about two inches above the external malleolus, carrying it forwards beneath that process across the front of the joint, and terminating about two inches above and behind the inner malleolus. This incision included the skin alone, without implicating the tendons or their sheaths. The flap thus formed was dissected

up, and the peronei tendons were detached from the groove behind the fibula and cut through, as were the external lateral ligaments close to the fibula with a pair of bone-nippers. I next divided the fibula about an inch and a half above its inferior extremity, and cutting through the inferior tibio-fibular ligaments detached the external malleolus. Now, turning the leg on to its outer side I cut through the internal lateral ligament, carefully keeping my knife close to the end of the tibia to avoid the posterior tibial artery. The tendons of the tibialis posticus and flexor communis were then detached from the groove behind the internal malleolus, and taking the foot in my two hands, the late Mr. Avery, who assisted me, holding the leg, I next dislocated the foot outwards, thus bringing the end of the tibia with the internal malleolus prominently through the wound. These were removed by the common amputating saw, applied half an inch above the horizontal articulating surface of the tibia, the soft parts being protected by a spatula, and the upper articulating surface of the astragalus having also been removed by a metacarpal saw, held horizontally. The foot was then restored to its proper position, the cut surface of the astragalus being adapted to the cut surface of the tibia, and the wound having been closed by sutures, except on the outside, which was left open for the free escape of discharge, the leg was placed on its outside on a splint, having an opening corresponding to the wound, and the patient was returned to his bed.

You will doubtless have observed that the parts here cut through were the skin, the peronei tendons, the internal and external lateral and the inferior tibio-fibular ligaments, and the lower ends of the tibia and fibula. In subsequent operations I preserved the tendons entire. In no ins ance have the anterior or posterior tibial arteries been wounded, and in no instance has it been necessary to apply a single ligature.

Let me now demonstrate by the diagrams before you the amount of skeleton removed, and I doubt not it will then be admitted that, however honourable to their authors the operations performed by Liston, Teale, and Wakley, assuredly they were not excisions of the ankle-joint, and that consequently they in no way invalidate my claim of having been the first to introduce this operation into the arena of British surgery.

Although this operation has been performed by the late Mr. Jones of Jersey, Mr. Canniffe of Canada, the late Dr. M. S. Buchanan of Glasgow, Mr. Barwell, Mr. Canton, Sir W. Fergusson, Mr. Hessey, Mr. Holmes, and Mr. Paget, it is not regarded with that general favour to which its merits entitle it.—*Lancet.*

ON THE MANNER OF THE INHERITANCE OF CANCER, AND ITS RELATION TO QUESTIONS CONCERING THE LOCAL OR CONSTITUTIONAL ORIGIN OF THIS DISEASE.

By W. Morrant Baker, F.R.C.S., Demonstrator of Anatomy and Operative Surgery at St. Bartholomew's Hospital, etc.

The theory that cancer is, at the first, a local and not a constitutional disease, has recently being strongly upheld by an eminent writer on this subject (*The Antecedents of Cancer*, 1865, by C. H. Moore, F.R.C.S.; *A Brief Report on Cases of Cancer*, by C. H. Moore, F.R.C.S., *Brit. Med. Journal*). At the same time, he has shown how necessary for the establishment or destruction of any such theory are large statistics of cases of the disease; and it therefore seems incumbent on all to contribute, as far as they can, to the settlement of this vexed and oft-mooted question.

It is a matter of common observation, that no subject, illustrates better than cancer how much may be said on both sides of an argument. There are, indeed, but few facts which have been imported into discussions on this subject that will not serve as weapons as well for one side as the other—as evidence, as much of the local, as of the constitutional origin of the disease.

There is, however, one point in the history of cancer which has a real bearing on the question at issue, and has more weight, perhaps, than any other; namely, the manner of the inheritance of the disease. And I propose to consider this point alone, not because it is by any means the only one that should be taken into consideration, but because it seems to me sufficient by itself to settle the particular question in dispute, so far as a settlement is at present possible.

Before bringing forward any statlstics of inheritance, it may be well to direct attention to the fact that two very different notions concering that which is inherited appear to exist in the minds of different writers on this subject. For instance, the question is argued sometimes on the apparent supposition that cancer, as such, is handed down from parent to offspring; and that, therefore, the laws by which its transmission is regulated ought to be the same with those which govern, say, the appearance of syphilis in the offspring of a syphilitic parent. Thus it has been said that, had inheritance much to do with the appearance of cancer, this disease should be more frequently congenital, or, at least, a more common malady in infants and young children than, from the examination of statistics, it appears to be (*The Antecedents of Cancer*, by C. H. Moore, 1865). But this argument, which at first sight seems a strong one, be-

comes fainter when it is examined from another side. That cancer, as cancer, is handed down from one generation to another, is not, I think, generally accepted as the usual manner of its inheritance, although it may so happen sometimes. It is not necessary to suppose, in every case in which inheritance has had to do with the matter, that there has been direct transmission of the disease; else a belief in the inheritance of cancer from a grandparent, when the intervening generation escapes, would be an absurdity; for we cannot believe that, in this instance cancer could actually exist in the second generation, and even be transmitted to offspring, and yet remain undeveloped. Mr. Paget has put this fact very plainly. "That which is transmitted," he observes, "from parent to offspring is not cancer itself, but a tendency to the production of cancer at some time far future from the birth. We have no reason to believe that a cancerous material passes with the germ. To suppose such a thing, where the cancerous parent is the male, would be almost absurd. Moreover, no reason to believe that cancerous material passes from either parent is furnished by any frequency of congenital cancer." (*Lectures on Surgical Pathology*, 2nd ed., p. 774.)

So, then, in speaking of the propagation of cancer by inheritance, it is necessary to have a definite idea of what is supposed to be inherited, or, at least, to be not inherited; for, on the ordinary supposition that it is a tendency to the disease, and not the disease itself, that is transmitted from parent to child, we must be contented, necessarily, with a very vague notion, or, indeed, none at all, concerning that which is passed down from one generation to another. But the impossibility of saying how a tendency to disease, and not the actual disease, can be transmitted from parent to offspring, need not make us discard the notion of such being the manner in which cancer is inherited. At least, if we do so, we must fly in the face of all statistical records of the inheritance of cancer, and be prepared to deny altogether the possibility of arguing on this subject from the analogy afforded by many other diseases. For certainly a tendency to many others than cancer is inherited, as, for instance, gout, phthisis, brain-disease, etc.; and yet the disease, itself may never show itself at all, or may skip over a generation; and, even in the event of its appearance, it is frequently or commonly not observed until the subject of it has reached about the same age as that at which the disease showed itself in the parent. Indeed, there is no more impossibility in the transmission of a tendency to disease than there is of a tendency to the development of likeness in feature at about corresponding ages in parent and child. Both are results of the descent of a material something or other by inheritance; but just as cancer, which is not inherited, is the

result of certain material conditions which become potent for its production only at a certain period of life—it may be at an advanced age—so there is no improbability in the supposition that, in the case of inherited cancer, the inheritance is of the conditions which may or may not develope the disease, rather than of the disease itself. So far as the fact can be proved by statistical records, this is certainly the usual way in which it is handed down from generation to generation; and, if argument from analogy be admitted, this is the manner in which, from observation of the inheritance of other diseases, we should expect it to be transmitted.

In the next place, it must be observed, that the mere fact of cancer being a heritable disease has, by itself, nothing to do with the question, whether it is local in its nature or constitutional. The inheritance of this disease is sometimes mentioned as if to allow that such an occurrence is frequent, is almost to grant that the malady is a general and not a local one. Surely, this is an error. Epidermal cysts, crooked fingers or toes. hernia, etc., which may be taken as instances of what are called local diseases, are as undoubtedly heritable as cancer. And we may therefore regard the question, whether cancer is, at its beginning, local or constitutional, a distinct from the inquiry, whether, and to what extent, it is inherited.

As to the fact, that inheritance has a frequent influence in the production of cancer, there can be little doubt. The last published *résumé* of Mr. Paget's statistics (*Medico-Chirurg. Trans.*, 1862) gives 24·2 per cent., or nearly one in four, as the proportion of cancerous patients who were aware of the occurrence of the disease in other members of their families. And it must be remembered, that although some of these cases may have been only coincidences of disease; yet the deduction that should be made on this account is probably more than balanced by the increase that would have to be made, if the inheritances from patients, who die with unknown internal cancers, could be reckoned also.

It may be fairly said, too, that in a certain number of cases, a tendency to cancer, must be transmitted by inheritance; but the fact is never known on account of the death of the parent from some other cause before the disease has manifested itself. The frequent delay in the appearance of cancer until advanced age makes it the more probable that, from this cause, all statistics of the disease must give too low an estimate of the frequency of its inheritance.

It is not, however, the extent to which the inheritance is influential in the production of cancer that can settle the doubt whether the disease is, at first, only local. There are local diseases which are inherited as fre-

quently as many which are constitutional, and, in some instances, even more so. The mode, however, in which the disease is passed from one generation to another, is that which should afford a crucial test of its beginning, as a local disease or a general one.

Mr. Moore has, indeed, put the case very plainly. He remarks (*Antecedents of Cancer*, 1865, p. 20), "If it be usual for dissimilar cancers to prevail in direct inheritance,—for the children of cancerous parents to have primary cancer of various organs,—then cancer passes from parent to offspring as a general and not a local disease. It belongs indifferently to all the body. Its constitutional nature is established." And he then proceeds to say that such is not the result of his experience, although he is not in a position to state the fact numerically. In his later paper (BRITISH MEDICAL JOURNAL, Dec. 1, 1866), he supplies this want by a relation of twenty-four cases of cancer, which occurred in the relatives of cancerous patients who were under the care of various members of the British Medical Association. "One-half of these multiple cancers, in related persons, occupied similar, and one-half dissimilar, organs.

By the kindness of Mr. Paget, I have also lately been enabled to publish some statistics of cases of multiple cancers in families, and of the proportion of similiar to dissimilar cancers among relatives (*St. Bartholomew's Hospital Reports*, vol. ii. 1866). They have been collected from those of his cases in which any information of the kind had been recorded, and have been arranged in the order in which they occurred, without reference to any particular result. It is unnecesary to quote the whole table, which may be found in the place to which a reference has been given. It will suffice to say, that altogether I have been enabled to tabulate eighty-three cases in which the occurrence of cancer, in more than one member of a family, had been recorded, together with the situation of the cancer in the relatives affected. Examination of the cases gave the following result:—

"There were altogether forty-five instances (in forty-one families) of direct inheritance from father or mother; and of these, the disease was in the same organ in both parent and child in nineteen, and in different organs, in twenty-six instances.

"It is a curious fact that in all the cases but one, in which the disease occupied the same site in both generations, the breast was the organ affected; the exception was the uterus. As might be expected from this fact, almost all these patients were females, only one case occurring of cancer of the breast inherited by a male.

"Among the cases of direct inheritance from a parent, but in which

the disease was transmitted to a different organ in the child, nine were instances of inheritance from the father, and seventeen from the mother.

" There were sixteen instances (in fourteen families) of inheritance from a grandparent or great-grandparent, or both; of these, eight were cases of cancer in the same, and eight in a different, organ in the two generations. As before, the cases of disease of the same site in both generations, were cases of cancer of the breast, with a doubtful exception.

" There were forty-nine families—some of them have been included in the former statement—two or more members of which had cancer, the relationship between whom, however, was not that of parent, or grandparent, and child. Of these, twenty-eight were families in which the disease was seated in the same organ in all the relatives affected; twenty-one in which different organs were attacked.

" There were twenty-five instances of the disease in brothers or sisters, or in brother and sister. In fourteen of these the same organ suffered in both the relatives affected; in eleven, a different one.

" The whole of the twenty-eight instances of cancer of the same organ, in all the affected relatives, were cancer of the female breast; and fourteen of them were in sisters" (*St. Bartol. Hosp. Rep.*, vol. ii, p. 136).

Taking Mr. Moore's statistics (twenty-four cases), therefore, and Mr. Paget's (eighty-three cases), we have altogether one hundred and seven cases wherewith to decide the question whether cancer, is, at its beginning, local or constitutional, so far, that is to say, as it can be determined by observation of the manner in which it is inherited.

In the sentence before quoted from Mr. Moore's paper, it is rightly said, that the occurrence of inherited cancer in other organs than those affected in the parent, would be a sufficient reason for considering the disease a constitutional one and not a local. How then does the case stand, now that a fair number of cases, having a special reference to this point, has been collected?

Taking the whole of the cases together, in which cancer occurred in relatives, one-half, almost exactly, occurred in similar, and one-half in dissimilar, organs in the affected members of the same family.

Taking only the cases of direct inheritance from a parent,—and these are, of course, the more conclusive—the number of instances of unlike cancer in parent and child is found to preponderate over those in which they were alike.

Now, it is difficult to see how any evidence, so far as it goes, can be

more conclusive. It is equally difficult to see how this evidence of cancer being not merely a local disease, can be resisted. The only way in which it can be resisted, or shown to be not conclusive, must surely be by doubting whether inheritance has anything whatever to do with the matter; or, and this is a less reasonable alternative, by assuming that the instances of cancer, similiar in the offspring to that in the parent, are cases of true inheritance; and that those of cancer, unlike in parent and child, are simply coincidences, and nothing more.

As the latter alternative, indeed, is almost a *reductio ad absurdum* in the presence of the histories of cases of multiple cancers in families, such as may be found recorded in treatises on this subject, it will be unnecessary to consider it. It may be well, however, to inquire whether there is any reason for thinking that all supposed cases of inheritance of cancer may be only coincidences of disease in the same family.

The percentage, before quoted, of cancerous patients who were aware of the occurence of the disease in other members of their family, seems by itself almost conclusive; but the supposition of coincidence is rendered still more untenable by the observation made some time ago by Mr. Page, *Med. Times and Gazette*, Aug. 22, 1857), that among a large number of patients with innocent tumours, neither cancerous nor recurring, only 6·8 per cent. were aware of any relative having cancer; while 22·4 per cent. of the cancerous had one or more relatives with the same disease.

If, then, we may believe on the present evidence, that cancer is really inherited in a large number of cases, and that in the transmission of the disease in this way, it happens, as often as not, that a different organ suffers in the offspring from that affected in the parent, how can the theory be maintained that cancer is a local malady?

The fact that, among inherited cases, cancer is so frequently in the same organ in both parent and offspring is no evidence for its merely local nature. The occurrence of tuberculous disease in the lung, and of gout in the great toe in successive generations may be fairly taken to prove for what parts these diseases have a special liking, but is scarcely a sign either of their local nature, or of their transmission by inheritance as local diseases. And it is not easy to understand why, under analogous circumstances, cancer, and not gout or phthisis, should be considered a local disease.

Moreover, on reference to the statistics, it will be seen that it is only in instances of cancer in those organs, especially the breast and uterus, for which it has a very great liking, that we see any special tendency to a repetition of disease in the same part in two members of successive gene-

rations. And that cancer of the breast or uterus, when transmitted to offspring, should be repeated in the breast or uterus respectively is surely not, on any theory, to be wondered at, when it is remembered how likely it is that, under any circumstances, cancer in the female will be found in one or other of these organs.

But again, the proportion of cases in which cancer occurs in a different organ in parent and offspring is of comparatively little moment. If it be allowed that cancer is ever transmitted to a different organ in the child from that which was affected in the parent, then it is practically allowed that cancer is not merely a local disease. For such an admission in any individual case, must of necessity be the same thing as granting that in this special instance the disease was not merely a local one. And before those which occur in the same organs in parent and offspring can be supposed to be merely local, surely some difference must be shown plainly to exist between the cancer which occurs in the two groups of cases (those in the same and those in different organs). For, while there is every reason to believe that a constitutional disease will always be found to prefer certain organs as its site before others, there is no reason for believing that a disease, not traceable to external influences, can spring up at one time as a local and at another as a constitutional disease.

If the number of cases in which there occurred unlike cases in successive generations was very small in proportion to the number of those in which the disease was, under the same circumstances, alike, there would be, of course, an increased chance that the exceptions might be only coincidences. But, if it be granted or proved that such cases as those referred to really occur, then one such case would weigh more in the decision than a hundred or a thousand on the other side, and for the reasons just given. But the case is not reduced to such straits. Under all circumstances, the occurrence in question seems to be as frequent as the reverse; and, if we except the cases of cancer in those organs towards which it always has a very strong tendency, there really seems to be comparatively little chance of an inherited cancer attacking the same organ in the child with that which it affected in the parent. At least, if we except cancer of the breast and uterus, such an event happened in Mr. Paget's forty-five cases of direct inheritance (from parent to child) not once, and in Mr. Moore's eight cases only once.—*British Medical Journal.*

FAVOURABLE TERMINATION OF A CASE OF OVARIAN DROPSY WITH-OPERATION AND SUGGESTIONS AS TO ITS TREATMENT.

By Dr. George Crawford.

The following case is so pregnant with instruction to the Medical Profession at large, that were I to withhold giving it publicity I should not be doing my duty as one of it members:—

Mrs. H., aged 64, the subject of the following remarks, and the mother of a large family, had always enjoyed good health till about three years ago. At that time she observed a slight swelling taking place in the lower part of her abdomen, on the right side. Having caused her no pain, the only inconvenience arose from its bulk and occasional gastric disorder; consequently she gave it no attention for two years, till I was called in about twelve months ago. The swelling had rapidly increased for some months previously, and had now become very painful. I examined her and found her very much enlarged, resembling a person about the seventh or eighth month of utero-gestion; but, as she had ceased to menstruate for twenty years, it left no doubt in my mind as to the disease being any other than ovarian. The tumour occupied very much the middle line, and fluctuation was distinctly felt. Great pain was complained of at a point about two inches to the right of umbilicus, and the skin at that place was much inflamed, and apparently adhered to the structures beneath.

As a means of relieving this pain I ordered hot linseed-meal poultices to be constantly applied, at the same time giving her a mixture of infusion of digitalis, acetate of potash, and iodide of potassium, there being a considerable amount of œdematous swelling in the lower extremities. The pain was immediately relieved, and also the swelling in the legs. The tumour did not perceptibly increase for the next three or four weeks, but as she was chiefly in bed she could not judge so well of its size as when she was walking about. At the end of this time a small opening that would admit a common probe occurred on that part, which was inflamed and adhering to the structures beneath, when a considerable quantity of yellowish fluid was discharged from it, along with a number of very minute hydatids. This fluid continued gradually to escape for a number of weeks until the tumour was almost gone; indeed, the only indication left of its existence was a thickened doughy feeling in the right iliac region, extending to the opening where the fluid escaped. After she was up and apparently as well as ever, the small opening healed over, but the swelling slowly returned. A few more poultices were applied, and the fluid began to escape as before.

I saw her a short time since, and she told me that when it stops discharging for a week or two, all she has to do is to apply more poultices, and the discharge is renewed. Several folds of cloth placed over the opening to dry up the discharge, which is now very trifling, and a bandage tightly applied to keep up a considerable degree of pressure, is all she is doing for it, and her health is now as good as ever—at least she has no inconvenience from it.

From the facts of the case narrated above, it will be seen that the opening whereby the fluid was discharged took place spontaneously, that the cyst in all likelihood was unilocular, that adhesion of its walls must, to a certain extent, have taken place, that the opening has been nearly permanent, that it gives exit to the fluid as it is secreted within the cyst, that the disease is checked, the swelling removed, and the patient able to attend to her duties as before.

Now, I am of opinion, when the distension is great and the fluctuation is more distinctly felt at one spot than at another, that if inflammation were induced, by pressure or otherwise, to insure adhesion of the abdominal wall to that of the cyst, and a small opening made, not with the view of emptying the cyst of its contents at once, but more with the intention of allowing it to drain by degrees, and at the same time a bandage be tightly applied to exert a considerable amount of pressure over the tumour, and the opening prevented from closing, many cases might be treated in this way, and the patients, if not entirely cured, might be much relieved, and be able to spend the remainder of their lives with more ease and comfort, and freed from the grave consequences of undergoing the operation of ovariotomy, which is at all times accompanied with so much hazard and danger to life, or the tumour be prevented from pressing on some vital organ, and destroying the patient in that way.

Port Glasgow, Feb. 25.—*Medical Times and Gazette*, March 23.

DEATH OF M. CIVIALE.

This eminent surgeon died, almost suddenly, on the 13th inst., in the 75th year of his age. Seldom has a name been so thoroughly identified with an operation as that of Civiale; and all over the civilized world will everyone understand, when hearing of his death, that the inventor of lithotrity, an ingenious and persevering surgeon, a skilful operator, an eminent author, a teacher of several generations of lithotritists, a conscientious man, and a benefactor of humanity in his special branch of surgery, has departed this life.

Civiale died at an advanced age, in the possession of a very ample fortune, and in the enjoyment of the most enviable honours and distinctions. He was a member of learned societies of the first order, the head and leader of lithotrity, the author of several works on subjects connected with his department of practice, and sole surgeon of the wards set apart for crushing stone at the Necker Hospital at Paris; and so fully was he in possession of his faculties up to the end as to have just completed a magnificent museum of calculi for the above-named hospital, and corrected the proofs of an important work on Lithotrity, which will soon see the light.

Seldom has a man succeeded in rendering greater services, and of a

more signal kind, to the sufferers from a most distressing complaint; and all must rejoice to find that his efforts have been duly rewarded and magnificently acknowledged, both by the public at large and by the most eminent bodies of our profession.

The general expression of regret at Civiale's demise contrasts in a striking manner with the unnoticed death of Heurteloup, who certainly worked with great activity and perseverence in the same path. And why? Civiale laid his practice, his inventions, his teachings open to the world; Heurteloup kept whatever improvement he might introduce egotistically to himself, afraid that others should reap any benefit from his mechanical skill. Civiale brought his methods of operating and his instruments with great alacrity before the learned societies of his country; Heurteloup's communications were all wrapped in mystery, full of supposed results, but silent on the means of obtaining them. Both are gone—one will be remembered with gratitude, the other forgotten.

Civiale's position among the leading members of the medical profession and the learned societies of Paris may be looked upon as quite exceptional, and the distinctions he obtained as peculiarly gratifying, because our brethren of the French capital, particularly the most eminent, have a horror of specialism. Both Ricord and Civiale have had to contend against this feeling, and they have both succeeded in a most credible manner. The setting apart of special wards at the Necker Hospital for the exclusive treatment of calculous patients by Civiale was quite an event, the like of which had not been known before in any specialty, and has not occurred since.

It is said that some remarks made by Marjolin at the Hôtel Dieu many years ago struck Civiale, then Dupuytren's pupil. After surmounting many difficulties and submitting to severe criticism and even ridicule, he succeeded in applying Marjolin's hint; and, by dint of persevering efforts, the deceased inaugurated and subsequently vastly improved a most important branch of practice.

It may here be remarked that discoveries and inventions have of late years borne principally on the improvement of our means of diagnosis, as shown by the stethoscope, laryngoscope, opthalmoscope, sphygmograph, &c.; but therapeutics have not advanced in the same ratio. Civiale's is a splendid therapeutical discovery, which he has the glory of having made and carried, through a long series of years, to a high point of perfection.

The best known British lithotritists will certainly learn with regret the demise of Civiale, for many, if not all, of them have been his pupils. We well recollect that one of them, Mr. Coulson, was the first to introduce the practice of lithotrity into this country. A series of English surgeons have since shed much lustre on lithotrity, and gratitude for Civiale's services must rise to a very high point, when it is recollected that his teaching spread extensively, as it included medical practitioners from the old and new world.

He was buried in the neighbourhood of Paris with the greatest simplicity, in compliance with his wishes; but the news of his death will certainly cause the deepest regret among his friends, the medical profession, and the public at large.—*London Lancet.*

Canada Medical Journal.

MONTREAL, JUNE, 1867.

We publish in this number of the journal the evidence taken in defence, at the trial of Provencher for the murder of Joutras, by poison. To the unbiased reader, this case presents all the features of a most foul premeditated murder, there is not one single extenuating circumstance, and in our opinion the culprit met the just punishment for his crime. The evidence for the defence consists exclusively of medical testimony, which is of such an extraordinary character, that it is perfectly incomprehensible, it is utterly beneath criticism, as it partakes more of the character of the testimony of a partisan, than that of a scientific investigator. A medical witness is bound to speak out his conviction truthfully, and according to the ability wherewith he has been endowed. We regard it as much to be deprecated that medical men are to be found willing and ready, apparently from a spirit of opposition, dissenting from the views of others, to rush into a court of justice and endeavour by special pleading, to mystify and puzzle a jury. Every allowance should be made, for the desire of saving an accused from the awful consequences of a chain of circumstances neatly interwoven, and which seem to be incapable of disentanglement, but this is not the province of a medical jurist he can alone hear facts testified to by other parties, and on these facts base his opinion.

We must believe that in this case the medical gentlemen for the defence are sincere in all they say. We cannot for one moment suppose that they have in any one particular stated what they do not believe to be true. Still it is not quite what we ourselves believe to be correct, in fact, we must state that their testimony in many particulars is utter nonsense, to place the very mildest construction on the rendering, it is at utter variance with the acknowledged received opinions of the day.

It is seldom in a case of the present character that an unbroken chain of evidence is brought forth. The motive was clearly made out, the fact, that of the adminstration of the poison on several different occasions, with intervals of days between, the dose on each occasion being sufficient to develop the characteristic symptoms of poisoning by strychnine; distinct periods of repose occurred, during which the unfortunate victim was enabled to go about his usual avocations. At length the wretched

criminal being fully impressed with his safety from detection, gave the *coup de grace*, in a larger dose which proved fatal, and then came the *denouement*. The man Provencher never supposed that his complicity had been suspected by the physician who had observed the symptoms of deceased, as Dr. Ladouceur says in his evidence at the trial, the symptoms exhibited by deceased, differed from those of any disease of which he was acquainted: hence his suspicion of foul play. It has been asserted by one of the medical gentlemen who appeared for the defence, that testimony given by unskilled persons of the existence of certain symptoms is unreliable, and therefore not admissable in a trial of this nature, that the evidence alone of medical witnesses is to be received. This is a novel and we must say a most pernicious doctrine, and without applying any stronger term is simply absurd. Supposing a man is shot through the body and is not seen during life by a physician, is the testimony of a third party who may have stood by and observed the gradual death, say from sincope, of the victim, unreliable, simply because he is not a physician, and as a consequence incapable of judging whether the deceased died from the injury or from natural causes. We regard the evidence of the unskilled who testify to facts which fully bear out the observations of scientific research as of more than ordinary weight, for instance, in the present case, in the report of the witnesses for the crown, they all testify to the great sensitiveness of deceased under the slightest excitation, walking across the floor, touching his body, speaking loudly, in fact anything likely to excite the highty exalted condition of his nervous system at once developed the tetanic spasms. Can any man in reason associate this condition with one of rheumatism or the host of isms of which, according to the medical testimony for the defence, Joutras died. We regret exceedingly to be obliged to take even this notice of the defence, but as public journalists it becomes our duty. We regret to observe that one of the medical gentlemen who gave evidence for the defence in so bad a cause is still floundering in the mire by writing letters in a daily paper, endeavouring, with the heroism and pluck worthy of a better cause, to rid himself of the opprobrium which must attach itself to his name if he pursues so false a policy.

This cannot be regarded as a criticism on the evidence, because, as we before observed, it is utterly beneath criticism, but we are unable to pass over the evidence as published without a few remarks. It has been stated that Provencher died without leaving a confession, this we have been informed is incorrect, and we trust for the benefit of the community among whom he dwelt while living, that any statement which he may have left will in due time be made public.

The Medical evidence and an abstract of the general evidence adduced on the trial of Modeste Vilbrun alias Provencher, for the alleged wilful murder, by poison, of François Xavier Joutras. At the criminal term, held at Sorel. C.E., in March 1867, *before the Honorable Mr. Justice Loranger.*

EVIDENCE FOR THE DEFENCE.

Dr. Joseph Emery Coderre states.—I have been a practising physician since 1844.—I am a professor at the montreal school of medicine. During my period of tuition I have been professor of Materia Medica and of Therapeutics I have been physician to the Hotel Dieu since 1850 and I also practise my profession amongst the public.

I was employed as medical "expert" in a supposed case of poisoning it was the case of Lussier of St. Hyacinth. My report in this case was published. I have published my opinions in several cases of poisoning.—Venemous matter may in certain cases be found in the materials used for a Chemical Analysis, I myself found arsenic in the copper which we were going to use in an Analysis. This was in the Lussier case. I dont think strychnine could exist in the materials which are used as reagents, but accidentally there might be some.

I heard the evidence which was given in this case regarding the symptoms which preceded the death of the deceased, and I have also read the report of the post mortem examination made of his body.—I also heard and read the report of the analysis made by Drs. Provost, Bruneau, Migneault and Girdwood. My opinion is, that from the symptoms as related, and from the reports of the autopsy and analysis, it is impossible to come to any definite conclusion concerning the cause of the illness.

My opinion is that the conclusions arrived at by the doctors who have been heard on behalf of the crown is a very uncertain one. The Medico-legal "expert" should have before him a report of the autopsy to enable him to arrive at any conclusion.

Before giving my opinion about the symptoms, I will review some of the evidence of the people who were present at the last illness, and here I would remark that symptoms described by witnesses who are not Doctors, possess no importance whatever as means of arriving at a conclusion. It is only when a medical man has observed the symptoms, that medical witnesses can arrive at a more satisfactory conclusion, which even then would, in many cases, not be correct. I will first take the evidence of Michel Lemaire, in which he says that the deceased retained perfect consciousness to the last moment, and that up to the last moment his breathing was free, that his eyes were sunken in the sockets. These symptoms we cannot say are those which are met with in a case of poisoning by strychnine. The breathing, in the last minutes of a case of poisoning by strychnine, is very labored and even completely suspended. The eyes are prominent, which has caused some medical men to say that they seemed started out of the socket, and the pupil is much dilated. Some days ago, since the commencement of this trial, I tried an experiment on an animal, and I found the eye prominent and the pupil dilated. I next take Dr. Ladouceur's report in which he states that on opening the chest he found an infiltration of blood in the peri-

cardium, and an effusion of more than a pint of blood in the right pleura and a little more in the left pleura, and also that upon making an incision into the sternum there was an escape of serum from the celular tissues ; that the heart was of a dark red, of a natural size and completely dilated in its auricles and ventricles ; that its cavities were empty and presented the same appearance as the exterior. The dilatation of the auricles and ventricles indicate that the heart was not in a natural state. The exterior and interior color of this organ denotes the existence of an inflammation prior to death. This inflammation of the internal membrane seldom accompanies chronic inflammatory Rheumatism. The rheumatism may exist without it, but when it becomes accute and affects the articulations the membrane of the heart is generally found much inflamed and sometimes thickened. By the same report we find that the lungs were very much congested and had a blackish appearance especially at the posterior part, that they were very friable and that upon pressure there came from them a dark brown froth. This congested state of the lungs may be the result of the difficulty of breathing especially at the last moments, and the black aspect, especially at the posterior part, is a post mortem result caused by the horizontal position of the body. The report states that there was more than a pint of black blood in the right pleura and rather more in the left. The presence of this liquid, unless from some traumatic cause or wound of the pleura, is in my opinion only a quantity of coloured serum, which had accumulated there gradually, and which constitutes what is called hydrothorax. This effusion having taken place, gradually explains to me the feeling of constraint that existed. There were, says the report, small white elevations on the back of the lung, which upon being opened, gave out a froth of the same colour. This state must have been owing to the presence of tubercles which had passed into the softening stage ; an indication that the lung had been unhealthy for a long time. In another part of Dr. Ladouceur's report, I see that in speaking of the brain, he says "The brain presented a natural appearance in all its parts. The dura mater was moderately congested towards the middle of the frontal bone ; between this bone and the dura mater, was found a whitish substance very friable, and about a line in thickness." This state of the dura mater shows that the presence of a foreign substance, of a line in thickness, can only be the result of inflammatory disease, and from the presence of that substance the inflammation may have existed for some time. This state necessarily deranged the functions of the nervous system, and the presence of foreign bodies, may even bring on convulsions and considerably weaken the intellect. The arachnoid was strongly congested, which confirms my opinion regarding disease of the brain. I now pass to that part of the report which speaks of the opening of the abdomen. Speaking of the liver he says "it was of ordinary size strongly congested with black blood, the right lobe was softened and friable, especially at its posterior part." This pathological state of the liver can only result from an inflammation which existed before death. Speaking of the kidneys in another part of his report he says. "The kidney was slightly swollen and was much injected with black blood." This state is an indication of an inflammatory disease of the kidney existing before death. "The spleen was," says he, "of considerable size, and like the other organs contained black blood : putrefaction was far advanced." This state is also an indication of inflammation of the spleen. In another part

of the report: speaking of the stomach he says: The internal surface was covered with a thick black mucus. This black mucus could only be the effect of inflammation of the internal membrane of this organ. This opinion is coroborated by Drs. Provost and Bruneau, who, in their report of the analysis, say that the internal membrane of the stomach was much injected, especially at the large curve, where the mucus membrane was of a dark red and also showed large blackish spots. I pass to the intestines. Dr. Ladouceur says that the duodenum was of a reddish color and congested. The internal surface was also congested. Upon scraping this surface with a scalpel, I detached a layer of reddish brown mucus. This state is also an indication of inflammation of the duodenum existing before death, Dr. Ladouceur says that the ascending and descending portion of the colon seemed slightly inflamed. The rest of the intestinal canal was in an extraordinary state of putrefaction. This state was an indication of a severe inflammation of the bowels existing before death. The state of the intestinal canal described by Dr. Ladouceur, denotes an inflammation of the whole intestinal canal, and would be more than sufficient to explain death. The state of all the organs that were examined shows me that they were all unhealthy. The pathological state of the corpse, as described by Dr. Ladouceur, might mark an illness that would cause death with the symptoms described by the witnesses as being those of deceased, without its being a case of poisoning by strychnine. The chemical analysis as described and made by Drs. Provost, Bruneau and Girdwood, of a portion of the mucus detached from the internal membrane of the stomach, of the duodenum, and gall bladder, cannot, in my opinion lead to any certain conclusion. To come to a conclusion about any poisoning, it is not sufficient to say you have found poison, but you must show it with all its characteristics. In the present case the poison is not shown in a natural state with the characteristics that belong to it. To come to a conclusion of death from poisoning, even supposing poison to have been found, if it has not been found in sufficient quantity to cause death, it is indispensable to demonstrate the effects of the poison by means of physiological tests and these tests consist in administering to live animals a portion of the substance which is supposed to have caused the poisoning. To come to any certain conclusion it is necessary, that the purity of the reagents and instruments used, should be proved by analysis. I do not consider the color test, described by the medico-legal witnesses for the crown, infallible. I consider that putrefaction might produce a substance which would make the colour test illusory. This is the opinion of writers who are authorities in toxicology Orphila is still the best author in these matters, Dr. Taylor is one of the greatest authorities on these questions, that England has produced, and I think when he said that other substances might produce the colours, that he was right, as he had agreeing with him, men who stood highest in the science, amongst which were Christison, Orphila, Casper and Bloomhart. Nearly all organic matters contain the same elements as strychnine in different proportions. There are several substances composed entirely of hydrogen, oxygen,, carbon and azote—such as strychnine, protein, brucine and morphine. The fibrine of the blood is composed of the same elements, but with different equivalents. These same alkaloids take juices which unite with the acids, to form the salts with different equivalents. This difference in the equivalents and in

the proportions, is not sufficient to make them perfectly different substances. All authors do not give the same equivalents. Rigidity of the body may come immediately after death, but it is not an essential condition of poisoning by strychnine that it should come on immediately. Strychnine given in a liquid, and dissolved in sufficient quantity to cause death, would take effect almost instantaneously, especially if the stomach was empty. In the first attacks, a person dying of strychnism would be able to breathe and speak, but as these attacks increase, the difficulty of breathing and speaking increase with them so much, that in the last spasm the patient can neither speak nor breathe. The moment a spasm commences the respiration is oppressed. I have been present at the death of a good many people; I have seen some die who retained their consciousness to the last moment. At the moment of life's departing, convulsions would supervene with rigidity of the limbs, a throwing back of the head and clenching the teeth. These are symptoms which manifest themselves in a great many diseases and inflammations, in some cases of phthysis and especially in certain cases of effusion in the thorax; they are also remarked in cases of death from inflammation of the intestines or inflammation of the brain. In poisoning by strychnine, the face is of a bluish colour and the eye prominent, and it stays in that state; I should not consider a placid face at the moment of death incompatible with poisoning by strychnine. I consider that the symptoms described by the witnesses are not necessary and characteristic symptoms of poisoning by strychnine, but they may be symptoms, of other diseases of which the post mortem examination revealed the existence; I repeat the conclusion I have come to—that from the symptoms, the autopsy and the analysis, it is impossible in this case to come to any certain conclusion of poisoning by strychnine.

Cross-examined.—The only experiment I made as to the effects of strychnine was to poison a dog which died in two hours. The first effects manifested themselves in two minutes, I cannot say whether the dog had been fed or not, I poisoned him at night. The nervous system of a dog is very like that of a man. In dissecting rooms we use sheep brains instead of dogs' brains because it is easier to get the head of a sheep than that of a dog. In Lussier's case I did not conclude arsenic had caused death, because there was none, I never made any experiments to discover strychnine. I never analysed any substance with a view to finding strychnine. I should not believe in the presence of strychnine unless I found it in crystals in the body in which I was looking for it. Having thus obtained it, I should require a successful manifestation of the series of colours which are peculiar to it and also physiological tests which should produce results affirming its presence, for the colour test alone is insufficient. If the quantity found was not sufficient to kill an animal, I should not come to a conclusion of poisoning. The effects of strychnine usually manifest themselves in pain throughout the whole system, especially in the region of the chest. The respiration becomes oppressed and laboured, after that comes the stiffness of the jaws and often a bending back of the trunk, with convulsive shaking of the limbs, prominence of the eye and suspension of respiration, generally at the third or fourth fit death supervenes, sometimes in from twenty to thirty minutes and sometimes in from an hour to an hour and a half. Generally in the last spasms the symptoms become more violent and there is loss of consciousness. Loss of consciousness is not invariable. There are cases in which consciousness remains to the

last, but the prominence of the eye and the dilatation of the pupil are constant signs and are always manifested. All authors agree in giving these symptoms as invariable. The presentiment of death is not a characteristic sign of poisoning by strychnine. One of the signs is the knowledge the sufferer has of the coming on of a spasm. But this knowledge is not peculiar to poisoning by strychnine only. I agree with the following remark made by Orphila, vol. 3, page 784. "One thing worthy of remark that is observed in poisonings by strychnine, by false angusturus and by brucia, is that the touching a part of the body, a threat or a noise generally brings on the tetanic pains." I have no personal knowledge of any case of poisoning by strychnine. I never heard of a case in Canada or even in America. In a case of acute rheumatism the heart is often found in a state of inflammation, especially the internal membrane, I recently opened the body of a man who died from inflammatory rheumatism. I found the heart considerably dilated, the cavities on the left side empty, those on the right full of black blood. I never saw a case of inflammatory rheumatism in which the patient died suddenly. This patient was better in the morning and left his bed in the course of the day. At 6 o'clock in the evening, he was administered and he died in the night. In that case I also found an effusion of serum in the pericardium. We found in the stomach traces of an old inflammation. The kidneys were congested, the whole inside was nearly in the same state as that described by Dr. Ladouceur in the report of his *post mortem* examination. This man died from inflammatory rheumatism which I consider a symptom of inflammation of the heart. Authors do not agree upon this point. This man died neither of angina pectoris, nor hydrothorax, nor trichina, nor from poisoning by mushrooms, nor by strychnine. A man that is attacked with inflammatory rheumatism always suffers in some articulation, either the arms or legs. Sometimes the whole body will be swollen, and the slightest touch causes great pain. It is one of the most painful of all diseases: the least movement in the room will sometimes bring on the pains, which are generally in the articulations, sometimes in the chest and sometimes in the stomach, I saw the patient I mentioned about eleven o'clock and he died about midnight. He had taken some food, I had ordered him a little beef-tea or light soup. He was delirious, but had no shiverings. Marie Plourde's evidence seemed to me so strange that I don't think any reasonable man could attach any importance to it. It is not likely that a man would get dragged any distance at all, by the tail and leg of his horse. Admitting Marie Plourde's evidence to be true, I could not from it come to any conclusion as to the illness of deceased on the 22nd December, because a man in convulsions could not sit on a horse. I do not remember the symptoms described by Dr. Ladouceur on the 22nd December last. I have read the symptoms described in the trial of Palmer who was accused of murdering Cook—the trial took place in London in 1856, and was presided over by Lord Chief Justice Campbell. I know what medical evidence was adduced by the prosecution. I could not come to the same conclusions as were arrived at by the medical witnesses in Palmer's case, because in my mind you cannot conclude that there has been poisoning by strychnine if the poison is not found in nature, and demonstrated as I have before said. I cannot give any particular disease as the cause of Joutras' illnsss. He died of chronic inflammation of the stomach and liver, which brought on the disorders observed in the system

Hydrothorax, which supervened as a symptom of inflammation, might bring on sudden death. The state of the organs as described by Dr. Ladouceur in his report of the autopsy, indicate a disease of the brain, with inflammation of the lungs, liver, kidneys, spleen, duodenum and the rest of the intestines and also of the heart. After poisoning by strychnine, as a general rule, there are no traces of inflammation. Death from asphyxia may bring on congestion of the lungs. I do not think that in cases of asphyxia, there would be any effusion into the pleura, especially of serum. In the first stage of inflammation of the lungs there is engorgement (" engorgement") and if the disease continues there is effusion. Putrefaction cannot take place in twenty-four hours; and in that time an effusion of serum in the thorax could not be owing to that cause. When decomposition was established I should not be surprised to find serum in the thorax, because, the tissues being broken, the liquid must be deposited somewhere. Death by strychnine may take place from coma, asphyxia or syncope. The effect of strychnine on the system is that all the organs become congested. Pain could not cause death by asphyxia. Strychnine acts upon the spinal marrow, compressing the respiratory organs which brings on asphyxia, the effect of which is to destroy the functions of the other organs. There is then congestion or effusion of the brain. In cases of poisoning by strychnine, some have occurred where the two ventricles of the heart were empty, in others only one was empty. In inflammatory rheumatism a man might walk an hour before his death, especially if the rheumatism was chronic. I have assisted at a great many *post mortem* examinations. I never remember finding a white substance between the frontal bone and dura mater. There are sometimes small bodies in this region, which may exist in groups. The stomach is not congested in poisoning by strychnine, but in some cases it might be. All the diseases I have mentioned cannot exist at the same time. In twenty-four or forty-eight hours there might be a commencement of putrefaction. The first proceeding in an analysis consists in separating the poison from the animal matter in which it is contained. This is done in different ways by maceration in alcohol or acids, to destroy the flesh, the residue is then filtered, sometimes ammonia is added and sometimes carbonate of potassa. The object of adding these things is to precipate the alkaloids, which being precipitated from the solution, remain in the deposit. This deposit is subjected to the proper reagents for the discovery of the different alkaloids. The object of each process is to obtain the alkaloid in solution and separate it from all organic matter. The process of maceration by means of alcohol is called Staas' process. Chloroform is now substituted for ether in Staas' process. When the chloroform has been separated from the liquid it is drawn off by means of a syphon. After complete evaporation, if the residue remains colored, it is calcined by means of a small quantity of sulphuric acid. Ammonia is then added to precipitate the alkaloid and chloroform to dissolve it. The chloroform is then evaporated and should the residue be colorless, it is treated with sulphuric acid and bichromate of potash, which bring out the different colors already mentioned. So long as the residue remains colored it should never be tested by the reagents, but should be subjected to fresh treatment until all coloring matter is removed. Staas' process differs from the one I have just described, because alcohol is used, to separate the poison from the animal matter, to which

tartaric acid is added from preference. The first process is that of Angers and Flaudin, and the second is Staas', Staas was never preferred as being the most efficacious in removing all colouring matter, but this process is a difficult one, and even nearly impossible to those who are not in the habit of manipulating chemicals. The process of Rodgers and Girdwood mentioned by Dr. Girdwood is that of Angers and Flaudin, to which has been added sulphate of magnesia and chloroform. To Staas' process chloroform has also been added, hydrochloric acid is not used in Stass' process. This new process is that of Angers and Flaudin with the addition of sulphate of magnesia. The process adopted by Dr. Taylor, in Palmer's case, is the same as Rodgers and Girdwood, with this difference, that in the last one chloroform and sulphate of magnesia are added. In Staas' process sulphuric acid is used. Sulphuric acid destroys organic matter and precipitates alkaloids, I cannot say who first recommended sulphuric acid to destroy organic matter, but it is in Staas process. I think sulphuric acid would destroy any organic matter. When there is no organic matter left. the residue becomes colorless, and it is then that reagents are used. When the organic matter is entirely removed so that the residue becomes colorless; if the tests upon application produced the series of colors peculiar to strychnine, I should conclude there was strychnine present. The series of colors given by strychnine, are those described by the witnesses for the crown: blue, violet, purple and red. I know of no substance but strychnine, which, being separated from organic matter would produce this series of colors. If I were called as a medical Jurist, and that the chemical analysis revealed strychnine; if the symptoms remarked at death were those of poisoning by strychnine, I should conclude it was a case of poisoning by strychnine. The symptoms described by the witnesses are incompatible with those of poisoning by strychnine as characteristics, as each one of them rebuts the idea of poisoning. I swear this man did not die of strychnine, as each of the symptoms repels the idea of poisoning by strychnine. I said that according to the report of the autopsy, from the state of the heart, there were more than sufficient diseases to cause death. There was a general state of suffering. I am still of the opinion that the general state of suffering he was in, might bring on these diseases. It is impossible to be sure of the cause of this man's death, but what I can say is that he did not die of strychnine. I said that, as a general rule strychnine did not produce any alteration in the stomach. If it was administered in alcohol it might. If I had examined two hundred bodies, without finding any, I should not because I did find strychnine, conclude that it was a case of poisoning. If this man had had all the inflammations that we observed, and that strychnine were given to him, he would die of strychnism: but he did not die of strychnism because the state of the organs does not indicate strychnine. Inflammation of the liver might cause the illness of the 22nd December. The symptoms given by Madame Cajolette might exist in diseases of the liver. The "ensemble" of the symptoms are not those of poisoning by strychnine, although some of them exist in it, but a diagnosis can only be based on all the symptoms together, which points out which organ it is that is suffering. The bending back of the body is a symptom met with in strychnism, but to base a diagnosis upon it, it must be accompanied with other characteristics. This symptom is found in diseases of the liver, in epilepsy, or in hysteria, I have myself seen cases of

hysteria and epilepsy where this arching of the body existed. This might also occur in angina pectoris. Taylor says hysteria is not a common disease amongst men. Nearly all the symptoms of poisoning by strychnine, given by Taylor are met with in Idiopathic and Traumatic Tetanus, but I agree with Taylor in what he says. Amongst the symptoms given, I find this bending back of the body and the sensitiveness, I should call "tetanic convulsions" this bending back of the body spoken of by Madame Cajolette and the general state of sensitiveness that rendered him sensitive to everything, to the touch. The deceased also kept saying he was going to die, and I also remark that his jaws were locked as described by Taylor. I remark that as soon as the Doctor gave him his remedies that he got better. In cases of epilepsy consciousness is lost during the attacks, even when the patient is exhausted, once there was an effusion, convulsions might arise from it, the poison which is absorbed (I speak of strychnine) can not be found in the blood, nor in the urine, nor in any of the secretions. I do not believe in experiments made by people who are not recognized by the science. When an experiment has been made it is customary to submit it to academicians for approval of the operations, and if that approval were granted I should then believe in the authority. I do not think poison is formed in the body, I have seen no case of poisoning by strychnine and I never made an autopsy in such a case. All I know I have learned from the study of books, To obtain a correct result it is necessary to analyse the tests (reagents) glasses cannot be analysed, if I said this morning that the instruments should be analysed, I made a mistake, but the certainty should be obtained that they are clean and contain no poison. I said that strychnine could not be found to a certainty by the color test but that it should be found in crystals. If, however, being separated from all organic matter it produced the series of colours and the physiological effects, I should conclude it had been found. If there is enough strychnine to produce the series of colours, there is enough to crystalise, even if completely dissolved, strychnine can be brought back to its primitive state. Medical science is founded in great part upon experience. I know of no other substance than strychnine that will produce this series of colours. The series of colours is only fit to individualise. I do not admit that there is only one substance which produces this series of colors. I would admit that a crystallised substance producing those colours would be strychnine, and even that a substance which was separated from all organic matter and produced those colours would be strychnine. Any powder which might have been thrown on the stomach during the autopsy would localize itself, but I would remark that bile contains matter that might decompose strychnine. I do not think that supposing strychnine to have been thrown on the stomach, it could have got into the other parts. A man who had had all the symptoms remarked, and who died on the 31st., of inflammatory rheumatism, might have thrashed in a mill as described. Inflammatory rheumatism may become localized and cause sudden death. The symptoms of any disease have an infinity of variations. There are no two things alike in nature, and mens' constitutions vary in the same way. The same disease may exist in two men with different characteristics. A powder thrown on the stomach, duodenum &c., could not spread to all the parts and could not be found unless it was spread over them. Amongst the symptoms described I did not find these: "raging thirst" "prominent eye" "livid coun-

tenance" "the wish to be turned over" "loss of consciousness," after the series of colours has been obtained to make sure it is necessary to have the physiological effects. In case of a powder being thrown on as insinuated, I do not think it could have been found as it was.

Louis Joseph Moll, M.D., states: I have been practising about 27 years. I heard the symptoms given by the witnesses who were present during the illness of Frs. X. Joutras. I have read the report of the autopsy and the analytical reports in the case. From what I have heard and read I consider the symptoms given by the witnesses as very doubtful, and deceitful as indications of poisoning by strychnine.

In Dr. Ladouceur's report, commencing with the brain, he describes a strong congestion in all the membranes; he describes a little serosity in the ventricles, and the existence of a whitish friable substance about a line in thickness, which exercised a pressure on the brain. Passing on to the chest I first take the heart, the internal membrane of which was of a darker colour than natural, and the exterior appearance of this organ also presents a darker color than in a normal state. The dilatation of the auricles and ventricles of the heart denotes a strong pressure of blood, which would have increased the size of this organ. From the morbid pathological state of the heart I conclude that this organ must have suffered from some inflammatory disease, either chronic or acute, previous to the death of deceased; and I say *previous to*, on account of the effusion of about two ounces of dark bloody serum which was found in the pericardium. Dr. Ladouceur describes both lungs as filled with black blood, with spots of even a darker colour at the lower and posterior parts, with white excrescences which, upon opening, yielded a white froth; and in the cavities of the pleura, i. e., that part of the serous membrane which covers the lungs, Dr. Ladouceur's autopsy shows us in the right pleura a little more than a pint of sanguinary serous matter of a very dark colour, and in the left cavity an effusion of the same liquid, with the same colour in rather larger quantity, without giving the exact quantity. Passing on to the abdomen, I find from Dr. Ladouceur's report, that the stomach contained a blackish mucus, and in the report of the analysis we are told that the mucus in the stomach was of a dark red colour, especially towards the large curve, and further there appeared brownish grey spots spread over the surface of the mucus. Dr. Ladouceur represents the intestines as being in a very advanced state of putrefaction. The liver, without anything very strange being remarked about it, seemed a little larger than natural. The spleen was swollen and much congested. The state of the brain might bring on a nervous disease accompanied with convulsions. The state of the heart, with the effusion in its covering; the strong congestion of the lungs, with the accumulation of liquid above mentioned, in the cavities of the pleura on both sides, might cause apprehension of imminent death. The well pronounced state of inflammation of the stomach, and the commencement of gangrene noticeable, (for no other name can be given to the inflammation remarked in the mucus of that organ,) the advanced state of putrefaction of the intestines, which denotes a chronic inflammation, or one which has lasted some time, are certain indications of a speedy death; and I come to the conclusion that the deceased may have died either from the lesions stated to exist in the thoracic cavity, or from those existing in the abdominal cavity; such lesions as above described, threaten

in themselves, and each one by itself threatens a speedy and certain death. It may sometimes happen that in some of these diseases, and especially in morbid lesions found in the organs, in the thoracic cavity a nervous disease declares itself, which would then be looked upon as a symptom of the lesion of the organs, and such nervous disease might have symptoms similar to those described by the witnesses of Frs. X. Joutras' death. There are several nervous diseases which resemble that of which deceased died, but the one most like it is angina pectoris in a violent attack, there are two anginæ, one idiopathic i. e. which comes on without any organic lesion and one symptomatic which is brought on by organic leisons similar to those remarked in the autopsy. To show how sudden and dangerous this disease is from a statistic of Dr. Forbes' it is shown that out of 164 cases 94 died. I heard Watson quoted from, according to this author I can say that in angina pectoris there is always an intermittance, else the patient could not exist—it is the same in all nervous diseases. There are tetanic symptoms in angina pectoris when it is very violent, otherwise they do not always exist. In this disease there is often fear of death, anxiety an agonizing feeling, tetanic convulsions and contractions? Such cases are rare, but you must not conclude that they cannot occur. From the lesions of the heart, in a word, from the endocarditis which, judging from the effusion, must have existed sometime, the heart was unable to receive the quantity of blood sent to it by the lungs, the residue of the blood must have remained in the bronchial capillaries, and coagulated gradually. The first part of coagulated blood would rapidly decompose, and the serous portions of it must have filtered through the pleura, to produce in its cavity the effusion of bloody serum that was found there; in this way the blood would gradually accumulate and coagulate, and congest and render the lungs more or less incapable of performing their functions i. e. oxygenizing the blood. The difficulty of breathing in the last moments may have brought on the attack of angina pectoris with great violence, the series of symptoms of which, would give an "ensemble," such as remarked by the witnesses who were present at Joutras' death. What makes me believe in hydrothorax more still, is that there was a well defined anasarcous condition, for Dr. Ladouceur tells us that when he made an incision on each side of the sternum, there escaped from the celular tissue covering the sternum, a quantity of serum, which makes me believe in the existence of hydrothorax prior to death. I mean to say that in experiments for the discovery of strychnine or any other vegetable poison, certain processes are adopted by those who operate, and that the results have been very uncertain. Some authors such as Christison, Angers, Fandin and Orphila tell us that the results obtained by means of reagents are very uncertain and illusory. Other authors pretend they can always find it if it exists, and think they are able to discover it into the last fibre of the human organisation. Not having had any personal experience in these cases, I form my opinion upon such authorities as I should consider the best established and the most reasonable; I consider that a medico-legal witness in this kind of evidence should give his report with all conscientiousness and after the utmost possible reflection, if his report is to be believed by the jury, and that he should only give his evidence upon the best possible proof. To arrive at a certain conclusion of a case of poisoning, it is first necessary to ascertain the existence of poison in the victim, you must then demonstrate the finding of it, and if possible show it in its natural

state; after this to corroborate, for many poisons resemble each other in appearance, it should be tested, physiologically. The physiological test, I consider as indispensable to enable you to draw a certain conclusion. Protein and other things contain the same elements as strychnine but with proportions that vary according to different authors. Prussic acid, which certainly had never been administered, has been discovered in Protein by means of reagents. A powder sprinkled on the outside might filter through any organ it was thrown on, but could not be passed from one to the other. From the symptoms described in the post mortem examination and chemical analysis, it is impossible to conclude. with any certainty, that Frs. X. Joutras was poisoned by strychnine. I have had no experience in chemical analysis—I never saw a case of poisoning by strychnine except on a dog—I never made a post mortem examination in such cases, nor have I seen the ante-mortem symptoms verified. I never made any chemical analysis of any sort. Strychnine has never been produced in protein by means of reagents. Gangrene may not have been far advanced on the 31st. An inflammation very soon developes itself, from the commencement of inflammation of the intestines up to the time of suppuration might take about eight days. The inflammation of the intestines to the acute stage could not have taken more than eight days. The congestion of the brain might be caused by the congestion of the lungs. Endocarditis is not a disease that places life in danger The only way it could endanger it would be by preventing the heart from receiving the quantity of blood that was sent to it. This endocarditis must have existed for two or three months before his death. Hydrothorax may have been caused by the endocarditis. The disease of the liver and spleen may have been caused by congestion of the organs. The disease of the heart must have brought on congestion of the lungs. I have seen people, who died of gangrene of the stomach, walk about and smoke an hour previous to death, with their intestines in a state of putrefaction. A man that is attacked by it cannot live long. The degeneration, the osification of the coronary arteries and the diseases of the valves of the heart are morbid symptoms of this disease. I consider the symptoms described by the witnesses, more compatible with angina pectoris than with poisoning by strychnine which leads me to say that they are incompatible with strychnism. I understand the symptoms of poisoning given by the witnesss. I think Flaudin and Taylor say that there are other matters, besides strychnine, which give the same series of colours.

Dr. Jean Francois Regis Edelmar St. Cyr.—States from the description of the symptoms, as given by the witnesses, from the reports of the autopsy and of the chemical analysis, I cannot as a doctor conclude that Frs. X. Joutras died from poisoning by strychnine. The symptoms in the last illness of deceased are no proof that death was caused by strychnine. The autopsy mentions organic lesions, more than sufficient to cause death. The series of colours is something, but I am of opinion that you cannot come to a definite and certain conclusion concerning the presence of strychnine unless you test it physiologically. Theanatomical lesions mentioned in the autopsy might have produced nervous attacks and brought on angina pectoris. The " ensemble " of the symptoms described by the witnesses of Joutras' illness exist in angina pectoris. Angina Pectoris declares itself suddenly after an illness, that would leave in the body of the sufferer similar lessi ons to those mentioned as existing in Joutras'. In the symptoms descri-

bed by the witnesses I remark the absence of one essential symptom of strychnism—the prominence of the eye which seems as if starting from the socket. The suspension of respiration is also an essential symptom of strychnine for strychnine when absorbed acts upon the spinal marrow, which in its turn acts upon the muscles of the respiratory organs and impedes their function. I think it would be impossible for a man under the effects of poisoning by strychnine to pray up to the moment of his death. A man who complains of rheumatism, lassitude in the legs, and who was subject to nausea and pains in the stomach and was depressed, might be suffering from a disease which would produce the lesions remarked in the autopsy. An attack of rheumatism might cause the lesions remarked in the heart. The congestion of the lungs must have taken place gradually, as the circulation must necessarily have been decreased. In such congestion of the lungs, the watery portion of the blood would, in time, necessarily separate from the solid part, and by filtering through the capillary bronchial vessels, gradually accumulate in the cavity of the pleura, and cause what is called hydrothorax. This effusion is owing to some impediment to the circulation of the blood, and this impediment or defect in the circulation easily explains the state of anasarca of the cellular tissue covering the sternum. I find in hydrothorax a cause of angina pectoris of a violent attack of which Frs. X. Joutras, in my opinion died. The extraordinary state of putrefaction stated in the autopsy and the pathological state of the stomach as remarked in the report of the analysis, are indications of another disease which might cause death. I should call this disease, inflammation of the stomach with a commencement of gangrene.

To Mr. Armstrong.—I have been practising medicine for six years. I never made a special study of chemistry. I never attempted to find strychnine in a body by chemical process. If by means of reagents I found the series of colours peculiar to strychnine, I could not come to a certain conclusion without a physiological test. I have my doubts concerning a series of colours produced by bicromate of potash, because, according to Dr. Letheby, this is the worst reagent of any in use. I approve of the process employed by the Drs. who made the analysis, but I think that having found strychnine in abundance, as they have stated, they ought to have made a physiological test of it. However small the quantity of strychnine found, it would produce, if not death, at all events symptoms of poisoning upon certain animals. I cannot say that the gall-bladder would absorb more strychnine in proportion than the intestines. From the word "abundance" made use of by the Doctors who performed the analysis, I should understand that they had found sufficient strychnine to make a physiological test. With the $\frac{1}{1000}$ part of a grain I think a physiological experiment might be made on a mouse or on a frog. I do not know how much strychnine it would take to affect a mouse. I agree with the opinion of Dr. Letheby who says that $\frac{1}{12000}$ part of a grain of strychnine would be sufficient to produce the series of colours. A hydrothorax which killed a man on the 31st of a month, might have produced tetanic convulsions on the 22nd of that month, but I do not think it could also have produced them on the 24th and 29th of that month. In the attack of the 22d December, I find some of the symptoms of poisoning by strychnine, such as the jerking of the limbs, the bending back of the body, the interval between the spasms, the fear of death, the nervous shock caused by

a sudden noise, the foreseeing a fresh spasm. I do not attach much importance to Mme. Cajolette's evidence, because she, by herself, could not have given a series of symptoms like those, and besides if these symptoms had really existed, they would have been remarked by the doctor upon his arrival, as we must suppose that they still continued. In comparing the symptoms observed on the 22nd with those of the illness of the 31st, I do not in the last attack find all the symptoms existing with the degree of violence they must have had to cause death. These symptoms compared, do not indicate the same disease. In my opinion on the 22nd, the symptoms observed were those of a violent attack of angina pectoris, and on the 31st, the gradual congestion of the lungs together with nervous attacks, caused Joutras' death. I agree with Christison and Taylor upon the "ensemble" of symptoms produced by strychnine. Symptoms in diseases vary in intensity and in character. If the illness of the 22nd had been caused by strychnine, Dr. Ladouceur would have perceived the symptoms which characterise poisoning by it. In angina pectoris of which the distant cause should be rheumatism, and the determining cause hydrothorax there would be lesion of the heart and lungs. To the Court—In one disease symptoms are remarked which are not remarked in another. I know of no substance but strychnine that will produce the same series of colors. There can be no doubt of the presence of strychnine, if after producing the colors it is tested physiologically. I think, but I am not certain that the quantity of strychnine that could produce the colors might be sufficient for a physiological test. If there is sufficient strychnine in an organ to repeat the color test with several times, I think there would be sufficient for a physiological test.

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CURE OF OPAQUE CORNEA.

If we are to believe M. de Luca, opacity of the cornea is no longer one of those intractable affections which shame the Doctor in the public mind. In a memoir just presented to the French Academy, the *savant* we have mentioned states that he has found that sulphate of soda has the power of removing corneal spots in an almost incredibly short space of time. M. de Luca was led to experiment with this reagent from the circumstance that it maintains the fibrine of the blood in a state of solution. In the first trials he employed the sulphate dissolved in distilled water. The liquid he allowed to fall drop by drop on the ball of the affected eye, and the result was that after some days' treatment the opacity was to a considerable extent diminished. It then occurred to him to try the sulphate in the state of fine powder. On using it in this condition, and allowing a few particles of powder to fall upon the eye, a more decided result was obtained—in one instance, a patient who had been previously almost completely blind regained a certain amount of distinct vision. These results are, if true, exceedingly remarkable. We trust English ophthalmic Surgeons will give the new remedy a trial, and we hope that the beneficial effects may not be of an evanescent character.—*Medical Times & Gazette.*

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